Preface

Copyright

This publication, including all photographs, illustrations and software, is protected under international copyright laws, with all rights reserved. Neither this manual, nor any of the material contained herein, may be reproduced without written consent of the author.

Version 1.0

Disclaimer

The information in this document is subject to change without notice. The manufacturer makes no representations or warranties with respect to the contents hereof and specifically disclaim any implied warranties of merchantability or fitness for any particular purpose. The manufacturer reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of the manufacturer to notify any person of such revision or changes.

Trademark Recognition

Microsoft, MS-DOS and Windows are registered trademarks of Microsoft Corp.

MMX, Pentium, Pentium-II, Pentium-III, Celeron are registered trademarks of Intel Corporation.

Other product names used in this manual are the properties of their respective owners and are acknowledged.

Federal Communications Commission (FCC)

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

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

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

Declaration of Conformity

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

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

Canadian Department of Communications

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

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

About the Manual

The manual consists of the following:

Features and Packing List Translations

Liste de contrôle

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

Eléments standards

- Une carte mère
- Un câble plat pour lecteur de disquette
- Un câble plat pour lecteur IDE
- Un module de fixation pour ventilateur de refroidissement
- Un câble SATA
- Un câble d'alimentation SATA (optionnel)
- Ce manuel utilisateur

Caractéristiques

Processeur	S865PE utilise un socket de type DIP 478 broches P4 Intel supportant le bus système 800 / 533 / 400 MHz avec une vitesse de 1.3 G à 3.06 GHz et supérieur.		
Chipset	S865PE emploie les chipsets Springdale-PE (865G) Northbridge et ICH5 82801EB Southbridge. Le tableau ci-dessous explique brièvement certaines des caractéristiques avancées du chipset.		
	Chipset	**Caractéristiques**	
	865PE NB	Supporte un Processeur unique avec une vitesse de Transfert de 800/533/400MHZ.	
		Supporte la DDR-SDRAM en fonctionnement à 266/333/400 MHz.	
		Supporte une interface 1.5V AGP avec 8X SBA/transfert de données et capacité d'écriture rapide 1x / 4x / 8x.	
		Supporte une interface hub 8 bits / 66 MHz 8X sur Intel ICH5.	
	82801EB SB	Supporte huit ports USB 2.0 pour transfets en série à 480 Mbits/sec maximum.	
		Contrôleur LAN intégré LAN et 2 Contrôleurs IDE de Maître Bus de Canal Ultra ATA/100.	
		Contrôleur USB 2.0 avec capacités étendues pour 8 Ports.	
		SMBUS avec interfaces hôtes pour communications de processeur et interfaces esclaves pour maîtres SMBUS externes ainsi qu'Interface de Bus PCI avec PCI rev. 2.3, 3.3V (tolérance à 5V), et compatible interface 33 MHz.	

Mémoire	S865PE peut recevoir quatre modules mémoire SDRAM à Double Débit de Données (DDR) en 2.5V de 184 broches sans mémoire tampon. Il offre le bus frontal (FSB) de CPU 800 / 533 / 400 MHz standard avec capacités supplémentaires.
Graphiques	Avec son slot de 132 broches, le slot AGP est 1.5V seulement avec un Mécanisme de Verrouillage, cependant il ne supporte pas les connecteurs 3.3V ou AGP universels. Sa haute vitesse supporte AGP 2.0 qui comprend les vitesses de transfert AGP 1x / 4x / 8x et le protocole d'écriture rapide 4x / 8x. Ces signaux d'interface multiplexés avec deux ports DVO Intel et supporte la carte ADD Springdale-G seulement.
Audio	La ALC655 est conforme au Codec AC'97 (REV 2.3) et prend en charge le CODEC audio à six canaux conçu pour les systèmes multimédia PC. Elle offre trois entrées stéréo de niveau de ligne analogique avec contrôle de volume 5 bits : Ligne ENTRÉE, CD, AUX. Elle prend aussi en charge la fonction de sortie S/PDIF et fonctionne à partir d'une alimentation en 3.3V.
Extension	S865PE est livrée avec les options d'extensions suivantes: • Un slot AGP • Cinq slots PCI • Deux connecteurs IDE supportant quatre canaux IDE et une interface de lecteur de disquette
LAN	• Une puce GIGA-LAN RTL8110S interne • Une RTL8100C optionnelle • Port LAN au sommet du port USB • Un port 1394 au sommet du port USB
1394 FireWire (VT6307)	• Compatible avec le contrôleur de couche 1394a OHCI Link avec bus PCI PHY à 2 ports 400 Mbit intégré. • Noyau de liaison 1394 intégré avec interface de bus PCI à alimentation gérée de 32 bits. • Supporte 12C EEPROM et ombre de GUID PROM série à 4 fils sur EEPROM
E/S Intégrées	Cette 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 1394 • Un port LAN • Quatre ports USB • Prises audio pour microphone, ligne d'entrée et ligne de sortie

Microprogramme BIOS	S865PE utilise Award BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les suivantes: • Gestion d'alimentation • Alarmes de réveil • Paramètres de CPU • Synchronisation de CPU et de mémoire Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.

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

Checkliste

Vergleichen Sie den Packungsinhalt des Motherboards mit der folgenden Checkliste:

Standard Items

- Ein Motherboard
- Ein Bandkabel für Diskettenlaufwerke
- Ein Bandkabel für IDE-Laufwerke
- Ein Lüfterhalter
- Ein SATA-Kabel
- Ein SATA-Netzkabel (optional)
- Dieses Benutzerhandbuch

Funktionen

Prozessor	S865PE Anwendungen eines Intel P4 478-pin DIP type socket der 800 / 533 / 400 MHz system bus mit einer Geschwindigkeit von 1.3 G unterstützt bei und über 3.06 GHz
Chipsatz	S865PE vewendet Springdale-PE (865G) Northbridge und die ICH5 82801EB Southbridge chipsets. Tabelle werden einige der fortschrittlichen Funktionen des Chipsatzes kurz vorgestellt::

Chipsatz	Funktionen
865PE NB	Unterstützung für einen einzelnen Prozessor mit einer Datentransferrate von 800/533/400MHz
	Unterstützung für Dual-Kanal-DDR-SDRAMs mit 266/333/400MHz
	1.5 Volt AGP-Interface mit 8X SBA / Datentransfer und 1X / 4X / 8X Fast Write-Fähigkeit
	Unterstützungen 8-bits / 66 MHz 8X hub Schnittstelle zu der Intel ICH5.
82801EB SB	Acht USB 2.0 Ports für seriellen Datentransfer mit max. 480 MB/Sek.
	2-Kanal-Ultra ATA/100 Bus Master IDE-Controller
	USB kontrollierte 2.0 weite ausgedehnte Befähigungen für 8 Anschlüsse
	SMBUS mit Host-Schnittstellen für die Datenverarbeiter-Verbindungen und Folgegerät Schnittstellen für externe SMBUS masters, sowie PCI Bus Schnittstelle mit PCI rev. 2.3,3.3V (5V tolerant), und es ist 33 MHz Schnittstellen konform.

Speicher	S865PE nimmt vier nicht mit Batterie unterstütze 184-pin 2.5V Double Data Rate (DDR) SDRAM memory modules auf. Es versorgt die standard 800 / 533 / 400 MHz CPU front side bus (FSB) mit Extra-Befähigungen.

Grafik	Mit seinen 132-pin slot, AGP slot ist der 1.5V nur mit Latch Mechanismus einzusetzen, da er keine 3,3V oder Universal AGP Konnektoren ertragen kann. Seine ochgeschwindigkeits-Unterstützung AGP 2.0 umfasst 1 x/ 4x / 8x AGP Datengeschwindigkeitsübertragung und ein 4x / 8x Schnell-schriftprotokoll.Diese Schnittstellen-Signale multiplexiert mit zwei Intel DVO Anschluss Unterstützungen, nur für die ADD card Springdale-G .
Audio	Der ALC655 ist kompatibel mit dem AC'97 (REV 2.3)-Codec. Er unterstützt sechs Audio-CODEC-Kanäle für Multimedia-PC-Systeme. Es verfügt über drei analoge Line-Level Stereo-Eingänge mit 5-Bit Lautstärkenkontrolle: Line_IN, CD, AUX. Außerdem unterstützt er die S/PDIF-Ausgabefunktion und wird mit einem 3.3 Volt-Netzteil betrieben.
Erweiterungs	S865PE bietet die folgenden Erweiterungsoptionen: • Ein AGP-Steckplatz • Sechs PCI-Steckplätze • Zwei IDE-Anschlüsse, die vier IDE-Kanäle und eine Schnittstelle für ein Floppydiskettenlaufwerk unterstützen
LAN	• Ein onboard RTL8110S GIGA-LAN chip • ein optionales RTL8100C ein • LAN Anschluss auf der Oberseite des USB Anschluss • LAN Anschluss auf der Oberseite des USB Anschluss
1394 FireWire – (VT6307)	• Kompatibel mit dem 1394a OHCI Link Lagen Kontroll-mechanismus mit • Eingebautem 400 Mbit 2-Anschluss PHY PCI bus. • Eingebautem 1394 link core mit 32-bit energiebetrie-benem PCI • Bus interface. • Unterstützungen 12C EEPROM und vier Draht Kabel Serien GUID PROM • Schatten für EEPROM
Integrierte I/O	Es befindet sich ein kompletter Satz I/O Anschlüsse und Kon-nektoren an dieser Hauptschalttafel: • Zwei PS/2-Ports für Maus und Tastatur • Eine serielle Schnittstelle • Eine parallele Schnittstelle • Ein 1394 Anschluss • Zwei USB-Port • Ein LAN-Port • Vier USB-Schnittstellen • Audio-Ports für Mikrofon, Line-in und Line-out

BIOS Firmware	S865PE setzt das Award BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden:
	• Energieverwaltung
	• Wake-up Alarm
	• CPU-Parameter und Speichertiming
	• CPU- und Speichertiming
	Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.

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

Lista di controllo

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

Articoli standard

- Una scheda madre
- Un cavo a nastro per il drive dischetti
- Un cavo a nastro IDE
- Un modulo di ritenzione a raffreddamento
- Un cavo SATA
- Un cavetto di alimentazione SATA (opzionale)
- Il manuale dell'utente

Caratteristiche

Processore	La scheda madre S865PE utilizza è dotata di un socket Intel P4 DIP a 478 pin che supporta un bus di sistema (FSB) fino a 400/533/800 Mhz con velocitá che variano dal 1.3 GHz fino a d oltre 3.06 GHz.
Chipset	Vengono utilizzati i chipset Northbridge Springdale-PE (865G) e southbridge 82801EB (ICH5). La tabella sottostante presenta una panoramica delle funzioni avanzate del chipset:

Chipset	Caratteristiche
865PE NB	Supporta un processore singolo con velocità di trasferimento dati di 800/533/400MHz.
	Supporta Dual Channel DDR-SDRAM con velocità da 266/333/400MHz.
	Interfaccia 1.5V AGP con con trasferimento dati 8x SBA e protocollo Fast Write 1X/4X.
	Supporto dell'interfaccia Hub 8X a 8-bit / 66 MHz per il collegamento all'ICH5 Intel.
82801EB SB	Supporto di otto porte USB 2.0 per trasferimenti seriali a velocità di 480Mbits/sec Max.
	Controller LAN e controller bus master IDE a due canali ultra ATA / 100 integrati.
	Controller USB 2.0 con possibilità di supportare fino a 8 porte.
	SMBUS dotato sia di interfaccia host master per le comunicazione con il processore sia di interfacce slave per le comunicazioni con master SMBUS esterni supportando il Bus PCI con PCI rev. 2.3,3.3V (tolleranza 5V) e l'interfaccia a 33MHz.

Memoria	La scheda madre è in grado di ospitare quattro banchi SDRAM DDR a 2.5V a 184 pin. I quattro slot sono unbuffered (184 pin) a 2.5V e supportano il bus FSB (Front Side Bus) a 800 / 533 / 400 MHz con caratteristiche superiori.
Grafica	Lo slot AGP, per via della presenza di soli 132 pin, supporta solo il formato a 1.5V con "Latch Mechanism". Non vengono supportati ne i connettori AGP universali ne quelli a 3.3V. L'alta velocità nel trasferimento dati permette il supporto dello standard AGP 2.0 con trasferimento dati sia AGP1X/4X/8X sia con il protocollo Fast Write 4x/8x. Questa interfaccia grafica garantisce il supporto di numerosi standard di trasmissione grazie alle porte DVO Intel ed il supporto alla scheda ADD Springdale-G.
Audio	ALCC655 é conforme allo standard AC'97 (REV 2.3). Supporta 6 canali audio CODEC progettati per il Pc multimediali. É dotato di tre ingressi analogici stereo con controllo volume a 5 bit: LINE IN, CD, AUX. Supporta inoltre l'output S/PDIF e viene alimentato a 3.3V.
Opzioni di espansione	La scheda madre presenta le seguenti possibilità per l'espansione: • Uno slot AGP • Sei slot PCI da 32 bit • Due connettori IDE che supportano quattro canali IDE ed una interfaccia per il collegamento del lettore Floppy
Espandibilità	La scheda madre S865PE permette le seguenti opzioni di espansione: • Uno slot AGP • Cinque slot PCI • Due connettori IDE che garantiscono il supporto a quattro canali IDE ed ad un Drive floppy disk
Lan	• Un Chip RTL8110S GIGA-LAN integrato • Un chip RTL8100C opzionale • Una porta LAN presente sopra le porte USB • Un porta 1394 presente sopra le porte USB
1394 FireWire (VT6307)	• Compatibile con il controller 1394a OHCI dotato di due porte collegate tramite bus PCI PHY integrato a 400 Mbit. • Core link 1394 integrato con interfaccia con bus PCI per la gestione del risparmio energetico a 32-bit. • Supporto per EEPROM 12C e PROM GUID shadow seriale a 4 cavi seriale per collegamento ad EEPROM
I/O integrati	La scheda madre è dotata di un set completo di connettori e porte I/O: • Due porte PS/2 per mouse e tastiera • Una porta seriale • Una porta parallela • Una porta 1394 • Una porta LAN • Quattro porte USB • Jack audio per microfono e connettori ingresso/uscita Line

Firmware BIOS	Questa scheda madre utilizza il BIOS Award che permette all'utente di configurare numerose caratteristiche del sistema tra cui le seguenti:
	• Risparmio energetico
	• Segnali Wake Up
	• Parametri della CPU e sincronizzazione memoria
	• Timing della memoria e della CPU
	E' possibile inoltre impostare i parametri di velocità del clock del processore su diversi valori.

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

Lista de Verificación

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

Ítems Estándares

- Una placa principal
- Un cable cinta del lector de diskette
- Un cable cinta de la unidad IDE
- Un módulo de retención de ventilador
- Un cable SATA
- Un cable de suministro SATA (opcional)
- Este manual del usuario

Características

Procesador	El S865PE usa un zócalo tipo DIP de Intel P4 478-pin que soporta el bus de sistema de 800 / 533 / 400 MHz con velocidad de 1.3 G hasta 3.06 GHz y superior.
Chipset	El S865PE emplea los chipsets Springdale-PE (865G) Northbridge y ICH5 82801EB Southbridge. La tabla abajo explica algunas de las características avanzadas del chipset:

Chipset	Características
865PE NB	Soporta un solo procesador con un índice de transferencia de 800/533/400MHz.
	Permite Canal Dual de DDR-SDRAM 266/333/400MHz de operación.
	Intefaz 1.5V AGP con 8X SBA/Transferencia de Datos y Capacidad de Escritura Rápida 1X/4X/8X.
	Soporta la interfaz de hub 8-bits / 66 MHz 8X para el Intel ICH5.
82801EB SB	Soportas Ocho Puertos USB 2.0 para transferencias seriales en 480Mbits/seg Máx.
	Controladores LAN integrados de 2 Canales Ultra ATA/100 bus IDE master.
	Controlador USB 2.0 con capacidades expandidas para 8 puertos.
	SMBUS con las interfaces anfitrionas para las comunicaciones del procesador e interfaces esclavas para los masters SMBUS externos, también la Interfaz de Bus PCI con PCI rev. 2.3,3.3V (5V tolerante), y se conforma con la interfaz 33 MHz.

Memoria	El S865PE acomoda cuatro módulos de memoria SDRAM de Índice de Datos Dobles (DDR) de 184-pin 2.5V sin buffer. Provee el bus frontal estándar (FSB) de CPU de 800 / 533 / 400 MHz con capacidades extras.

Graphics	Con su ranura 132-pin, la ranura AGP es solamente 1.5V con el Latch Mechanism, aunque no soporta los conectores AGP universal o de 3.3V. Su alta velocidad soporta AGP 2.0 que incluye los índices de transferencia de datos AGP 1x / 4x / 8x y el protocolo de escritura rápida de 4x / 8x. Esta interfaz señaliza múltiple con dos puertos Intel DVO y soporta solamente la tarjeta ADD de Springdale-G.
Sonido	El ALC655 se conforma con el Codec AC'97 (REV 2.3) y soporta seis canales de CODEC de sonido diseñado para los sistemas de multimedia de PC. Provee tres entradas en estéreo a nivel de línea analógico con control de volumen de 5 bits: Line_IN, CD, AUX. También soporta la función de salida S/PDIF y opera de un suministo de 3.3V
Expansión	El S865PE viene con las siguientes opciones de expansión: • Cinco ranuras PCI • Una ranura 4xAGP • Dos conectores IDE que soportan cuatro canales IDE y un interfase de disquetera de disco flexible
LAN	• Un chip RTL8110S GIGA-LAN abordo • Un RTL8100C optativo • Puerto LAN encima del puerto USB • Un puerto 1394 encima del puerto USB
1394 FireWire - VT6307	• Compatible con controlador de capa 1394a OHCI Link con bus PCI PHY de 400 Mbit 2-puertos integrado. • Centro de vinculo 1394 enclavado con la interfaz de bus PCI suministrado de 32-bit. • Soporta 12C EEPROM y serial 4-cables GUID PROM sombra para EEPROM
I/O Integrado	El tablero principal tiene un set completo de puertos de Entrada/Salida y conectores: • Dos puertos PS/2 para ratón y teclado • Un puerto de serie • Un puerto paralelo • Dos puertos USB • Un puerto 1394 • Un puerto LAN • Cuatro puertos USB • Enchufes de audio para micrófono, línea de entrada y línea de salida
BIOS **Firmware**	El S865PE usa el Award BIOS que posibilita a los usuarios configurar muchas características de sistema incluidas las siguientes: • Administración de potencia • Alarmas despertadoras • Parámetros y memoria de temporizador CPU • Memoria de temporizador CPU El firmware puede también ser usado para ajustar parámetros para velocidades diferentes de procesador de reloj.

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

- 　　　　　　　1
- 　　　　　　　　　　1
- IDE　　　　　　　　1
- 　　　　　　　　　1
- SATA　　1
- SATA　　1　(　　　)
-

	S865PE　　Intel P4 478　　DIP 800 / 533 / 400 MHz　　　　　　　1.3 G　3.06 GHz
	Springdale-PE (865G) Northbridge ICH5 82801EB Southbridge

	—
865PE NB	800/533/400 MHz　　　　-
	266/333/400MHz　DDR-SDRAM
	8X SBA/　　　　　　1X/2X/4X 　　1.5VAGP
	Intel ICH5　8　　　/ 66 MHz 8X 　　　　　.
82801EB SB	480 Mbits/sec　USB 2.0 8
	LAN　　　　2　　　　Ultra ATA 100　　　IDE
	USB　　　　2.0　　8
	33MHz　　　　　　　SMBUS 　　　　　　　　　SMBUS 　　　　　　　PCI 2.3　3.3 (5V　) PCI

	184　　2.5V　　DDR(Double Data Rate) SDRAM 　　2　　　　　　　800 / 533 / 400 MHz CPU (FSB)
	AGP　　　132　　　　　　　　1.5V 　　　　　3.3V　　　　AGP 　　AGP 2.0　　1x / 4x / 8x AGP 4x / 8x

	2 Intel DVO ADD Springdale-G
AC' 97	A 655 AC' 97 2.2 6 3 5 3.3 /
	• 1 AGP • 5 32 PCI • 4 IDE 1 2 IDE
LAN	• RTL8110S GIGA-LAN 1 • RTL8100C GIGA-LAN 1 • USB LAN 1 • USB 1394 1
1394 FireWire - **VT6307** ( )	• 1394a OHCI Link 400 Mbit 2 PHY PCI . • 1394 32 PCI . • 12C EEPROM 4-wire GUID PROM EEPROM
	I/O • 2 PS/2 • 1 • 1 • 1 1394 • 1 LAN • 4 USB (USB2.0) •

BIOS	Award BIOS • • Wake-up • CPU • CPU

- 1
-                                 1
- IDE   1
-                1
- SATA   1
- SATA   1   (optional)
-

	S865PE P4 478 DIP , 1.3 G 3.06 GHz 800 / 533 / 400 MHz .
	S865PE Springdale-PE (865G) Northbridge ICH5 82801EB Southbridge . .

─	─
865PE NB	800/533/400MHz
	266/333/400MHz DDR-SDRAM
	8X SBA/ 1.5V AGP 1X/4X/8X Fast Write
	ICH5 8-bits / 66 MHz 8X
82801EB SB	480Mbits/sec Max 8 USB 2.0
	LAN 2 Ultra ATA/100 IDE
	8 USB 2.0
	PCI rev. 2.3,3.3V (5V) PCI Bus , SMBUS
	SMBUS. 33 MHz

	S865PE 4 un-buffered 184 2.5V Double Data Rate (DDR) SDRAM , 800 / 533 / 400 MHz CPU front side bus (FSB) .
	132 , AGP Latch Mechanism 1.5 V 3.3V AGP . , 1x / 4x / 8x AGP 4x / 8x AGP 2.0 . 2 DVO , ADD Springdale-G .
	ALC655 AC'97 (REV 2.3) PC 6 . 5 3 : Line_IN, CD, AUX. S/PDIF 3.3V .
	S865PE : • AGP 1 • PCI 5 • 4 IDE IDE 2
LAN	• RTL8110S GIGA-LAN 1 • RTL8100C 1 • USB LAN 1 • USB 1394 1
1394 (VT6307)	• 400 Mbit 2 PHY PCI 1394a OHCI . • 32 PCI 1394 • EEPROM 12C EEPROM 4 GUID PROM

	to
I/O	此主板配备以下设备:
	• PS/2 键盘和 PS/2 鼠标接口 2 组
	• 串行接口 1 组
	• 并行接口 1 组
	• 1394 接口 1 组
	• LAN 接口 1 组
	• USB 接口 4 组
	• 音频接口,

BIOS	S865PE 使用 Award BIOS
	此 BIOS 具有以下功能:
	•
	• Wake-up
	• CPU
	• CPU
		.

.

檢查表

請依下列檢查表,核對主機板包裝之內容:

標準項目

- 主機板一片
- 磁碟機排線一條
- IDE磁碟機排線一條
- 風扇固定模組一個
- 1條SATA連接線
- 1條SATA電源線(可選)
- 本使用手冊

功能

處理器	S865PE配有 Intel P4 478針 DIP式插槽,能以1.3G至3.06G 以上的頻率支援 800 / 533 / 400 MHz 系統匯流排。	
晶片組	S865PE採用 Springdale-PE (865G) 北橋晶片組及 ICH5 2801EB 南橋晶片組。本晶片組的特點摘要如下:	
	晶片組	**功能**
	865PE NB	支援資料傳送速率為 800/533/400 MHz 之處理器
		支援雙通道的266/333/400 MHz DDR SDRAM
		1.5V AGP介面具有4x SBA/資料傳輸及 1x / 2x / 4x 快寫功能

	82801EB SB	支援對Intel ICH5的8位元 / 66 MHz 8X 集線介面
		支援 8個 USB 埠，提供高達480 M位元 / 秒之串列傳輸速度
		內建有LAN控制器及雙通路的UltraATA100匯流排主IDE控制器
		內建USB2.0控制器，可支援8埠
		SMBUS為33MHz相容介面，除了PCI2.3版之3.3V(5V額定)規格PCI匯流排介面之外，尚具有處理器通信用主介面及外接SMBUS主控用從屬埠

記憶體	配備有4個非緩衝184針 2.5V DDR SDRAM記憶體模組插槽，不僅支援標準的800 / 533 / 400 MHz CPU 前端匯流排 (FSB)，配外尚有其他額外之功能。.
Graphics	具有132針AGP槽，其為1.5V專用規格，且具有卡榫。惟並不支援3.3V規格或萬用規格的AGP卡。此插槽符合AGP 2.0規格，可提供 1x / 4x / 8x AGP 資料傳輸速度及 4x / 8x 快速寫入功能。此介面利用2個Intel DVO 埠而多工化信號輸出，並且僅支援 ADD 卡Springdale-G。
音效	配備之ALC655晶片不僅相容於AC'97- 2.3版規格，且支援為個人電腦多媒體系統設計的6通道音訊CODEC功能。此外，以5位元音量控制功能提供3種類比線級立體音效輸入：Lin-in、 CD、及AUX。本晶片以3.3V電源來驅動，能夠支援S/PDIF輸出。
擴充	本主機板提供有如下擴充選項： • 1個AGP 插槽 • 5個PCI 插槽 • 2個IDE連接器，可支援4個IDE通道及1個軟碟機介面
LAN	• 一個機載 RTL8110S GIGA-LAN 晶片 • 一個選購的 RTL8100C 晶片 • 1個位於USB埠上方的LAN 埠 • 1個位於USB埠上方的 1394埠
1394 FireWire (VT6307)	• 1394a OHCI Link 層控制器相容，整合有400 Mbit 雙埠PHY PCI 匯流排 • 內建1394鏈結核心，具有32位元電力管理型PCI匯流排介面 • 支援 12C EEPROM 及 4線序列 GUID PROM 備份至 EEPROM
整合之輸出入介面	本主機板完整地支援各種 I輸出入及連接器：

	- 2個 PS/2 埠，分供滑鼠及鍵盤連接 - 1個串列埠 - 1個平行埠 - 1個1394埠 - 1個LAN埠 - 4個USB埠 - 麥克風、line-in及line-out音效端
BIOS 韌體	本主機板使用了Award BIOS，使用者可藉此對包括下列之系統功能進行設定： - 電源管理功能 - 喚醒警示功能 - CPU參數及記憶體頻率 - CPU及記憶體頻率 本BIOS也可用以設定各種有關處理器時脈的參數

有些硬體規格以及軟體物件將視狀況適當調整，不予另行通知。

校验表

将本主板的组件内容与以下校验表进行对照：

标准组件

- 一只主板
- 一条磁盘驱动器带状电缆
- 一条 IDE 驱动器带状电缆
- 一个散热风扇保持模块
- 1 条 SATA 电缆
- 一 条 SATA 电源线（可选）
- 本用户手册

功能

处理器	S865PE 主板使用一个 Intel P4 478-pin DIP 插座，支持 800 / 533 / 400 MHz 系统总线，可支持 1.3 G 到 3.06 GHz 或更快速度的 CPU。

芯片组	S865PE 使用 Springdale-PE (865G) 北桥和 ICH5 82801EB 南桥芯片组。

芯片	功能
865PE NB	支持800/533/400MHz 传输速率的单处理器
	支持在 266/333/400MHz 下工作的 DDR-SDRAM
	支持带 8X SBA / 数据传输和 1x / 4x / 8x 快写功能的1.5V AGP 接口
	支持与 Intel ICH5 连接的 8 位 / 66 MHz 8X 集线器接口
82801EB SB	支持 8 个 USB 2.0 端口，最大串行传输速度可达 480 Mbits/sec
	集成 LAN 控制器和双通道 Ultra ATA / 100 总线主控 IDE 控制器
	USB 2.0 控制器（可扩展 8 个端口）
	SMBUS 具有进行处理器通信的主机接口、用于外部 SMBUS 主机的辅助接口以及 PCI rev. 2.3,3.3V（支持 5V）的 PCI 总线接口，符合 33 MHz 接口规格

内存	S865PE 支持 4 个 184 线 2.5V 双数据速率 (DDR) SDRAM 内存条。提供具有更多功能的标准 800 / 533 / 400 MHz CPU 前端总线。
图形	AGP 槽为 132-pin 插槽，只支持 1.5V，带锁定装置，不支持 3.3V或通用 AGP 接口。此高速插槽支持 AGP 2.0，可提供 1x / 4x / 8x AGP 数据传输率并支持 4x / 8x 快写协议。此接口信号可以复用两个 Intel DVO 端口，只支持 ADD 卡 Springdale-G。
音频	ALC655 符合 AC'97 (REV 2.3) 编解码器规格，支持为 PC 多媒体系统设计的 6 声道音频编解码器。它提供 3 路带 5 位音量控制的模拟线路电平立体声输入：线入、CD 和 AUX。它还支持 S/PDIF 输出功能，可在 3.3V 电源下工作。
扩展	S865PE 提供如下扩展选项： • 1 个AGP 槽 • 5 个 PCI 插槽 • 2 个 IDE 接口，可支持 4 个 IDE 通道；1 个软驱接口
LAN	• 1 个板上集成的 RTL8110S GIGA-LAN 芯片 • 1 个可选 RTL8100C 芯片 • 1 个位于 USB 端口上方的 LAN 端口

	• 1 个位于 USB 端口上方的 1394 端口
1394 FireWire - (VT6307)	• 兼容集成了 400 Mbit 2-端口 PHY PCI 总线的 1394a OHCI 链路层控制器。 • 嵌入式 1394 链路内核，带32-位电源管理 PCI 总线接口。 • 支持 12C EEPROM 和对应于 EEPROM 的 4-线串行 GUID PROM 影子存储
集成 I/0	此主板具有完整的 I/0 端口和插孔： • 2 个用于连接鼠标和键盘的 PS/2 端口 • 1 个串口 • 1 个并口 • 1 个 1394 端口 • 1 个 LAN 端口 • 4 个 USB 端口 • 麦克风、线入和线出声音插孔
BIOS	S865PE 使用 Award BIOS，可以让用户自己配置以下系统功能： • 电源管理 • 唤醒报警 • CPU 参数 • CPU 和记忆定时 还可用于设置不同处理器时钟速度的参数。

部分硬件规格和软件项目若有更改恕不另行通知。

TABLE OF CONTENTS

Introducing the Motherboard

Introduction

We are proud to present you the new S865PE motherboard, supporting Intel / P4 Northwood / Prescott processors. It is a high quality, high performance, and enhanced platform that follows ATX format to OEMs and system integrators looking for solutions that offer the utmost features without sacrificing design flexibility.

With a measurement of 308.4 X 244 mm, S865PE is based on the ATX V2.1 form factor featuring the Intel Springdale-PE 865PE Northbridge and ICH5 82801EB Southbridge chipsets. Springdale is a Graphics Memory Controller Hub (GMCH) designed for use with an mPGA478 processor. The component provides the CPU interface, DDR interface, AGP interface, Hub Interface, CSA Interface and integrated graphics with display interfaces. Its role in a system is to provide high performance integrated graphics and manage the flow of information between its six interfaces. This includes arbitrating between the six interfaces when each initiates an operation.

The system memory supports 4 DIMMS (Dual channel) PC3200 (DDR400) / PC2700 (DDR333) / and PC2100 (DDR266) DDR SDRAM in max 4 GB memory capacity. S865PE provides the standard 800 / 533 / 400 MHz CPU front side bus (FSB) with extra capability.

S865PE supports the upgradeable external 1.5V 4X / 8X AGP Card. It encloses an advanced full set of I/O ports, such as PS/2 Mouse, PS/2 Keyboard, Parallel port, two serial ATA host controllers, one Serial port, COM1, 1394 Port and Audio Ports, LAN Port, and eight USB Ports, four at the back-plane and the other four at front panel.

Checklist

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

Standard Items

- One motherboard
- One diskette drive ribbon cable
- One IDE drive ribbon cable
- One cooling fan retention module
- One SATA cable
- One SATA power cable (optional)
- This user's manual

Features

Processor	S865PE uses an Intel P4 478-pin DIP type socket that supports 800 / 533 / 400 MHz system bus with speed of 1.3 G to 3.06 GHz and above.
Chipset	S865PE employs the Springdale-PE (865G) Northbridge and the ICH5 82801EB Southbridge chipsets. The table below briefly explains some of the chipset's advanced features.

Chipset	Features
865PE NB	Supports a single processor with a data transfer rate of 800 / 533 / 400 MHz.
	Supports DDR-SDRAM at 266/333/400 MHz operation.
	Supports 1.5V AGP interface with 8X SBA / data transfer and 1x / 4x / 8x fast write capability.
	Supports 8-bits / 66 MHz 8X hub interface to the Intel ICH5.
82801EB SB	Supports eight USB 2.0 ports for serial transfer at 480 Mbits/sec max.
	Integrated LAN Controller and 2 channel ultra ATA / 100 bus master EIDE controllers.
	USB controller 2.0 with expanded capabilities for 8 ports.
	SMBUS with host interfaces for processor communications and slave interfaces for external SMBUS masters as well as PCI Bus Interface with PCI rev. 2.3, 3.3V (5V tolerant), and it is 33 MHz interface compliant.

Memory	S865PE supports DDR 400 / 333 / 266 SDRAM, accommodating four un-buffered 184-pin 2.5V Double Data Rate (DDR) SDRAM memory modules. DDR SDRAM supports up to 4 DIMMs. Also, it provides the standard 800 / 533 / 400 MHz CPU front side bus (FSB) with extra capability. The memory chips must be standard SDRAM (Synchronous Dynamic Random Access Memory). It supports DDR SDRAM at 400 / 333 / 266 MHz operation.
Graphics	With its 132-pin slot, AGP slot is 1.5V only with Latch Mechanism, though it does not support 3.3V or universal AGP connectors. Its high speed supports AGP 2.0 that encloses 1x / 4x / 8x AGP data transfer rates and 4x / 8x fast write protocol. This interface signals multiplexed with two Intel DVO port and supports ADD card Springdale-G only.
Audio	The ALC655 is compliant with the AC'97 (REV 2.3) CODEC and supports six channels audio CODEC designed for PC multimedia systems. It provides three analog line-level stereo inputs with 5-bit volume control: Line-IN, CD, AUX. It also supports S/PDIF output function and operates from a 3.3V power supply.

Expansion	S865PE comes with the following expansion options: • One Accelerated Graphics Port slot • Five Peripheral Components Interconnect slots • Two IDE connectors which support four IDE channels and a floppy disk drive interface
LAN	• One onboard RTL8110S GIGA-LAN chip • One optional RTL8100C one • LAN port on top of the USB port • One 1394 port on top of the USB port
1394 FireWire (VT6307)	• Compatible with 1394a OHCI Link layer controller with integrated 400 Mbit 2-port PHY PCI bus. • Embedded 1394 link core with 32-bit power-managed PCI bus interface. • Supports 12C EEPROM and 4-wire serial GUID PROM shadow to EEPROM
Integrated I/O	There is a full set of I/O ports and connectors on this main board: • Two PS/2 ports for mouse and keyboard • One Serial port • One Parallel port • One 1394 port • One LAN port • Four USB ports • Audio jacks for microphone, line-in, and line-out
BIOS Firmware	S865PE uses Award BIOS that enables users to configure many system features including the following: • Power management • Wake-up alarms • CPU parameters • CPU and memory timing The firmware can also be used to set parameters for different processor clock speeds.

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

Motherboard Components
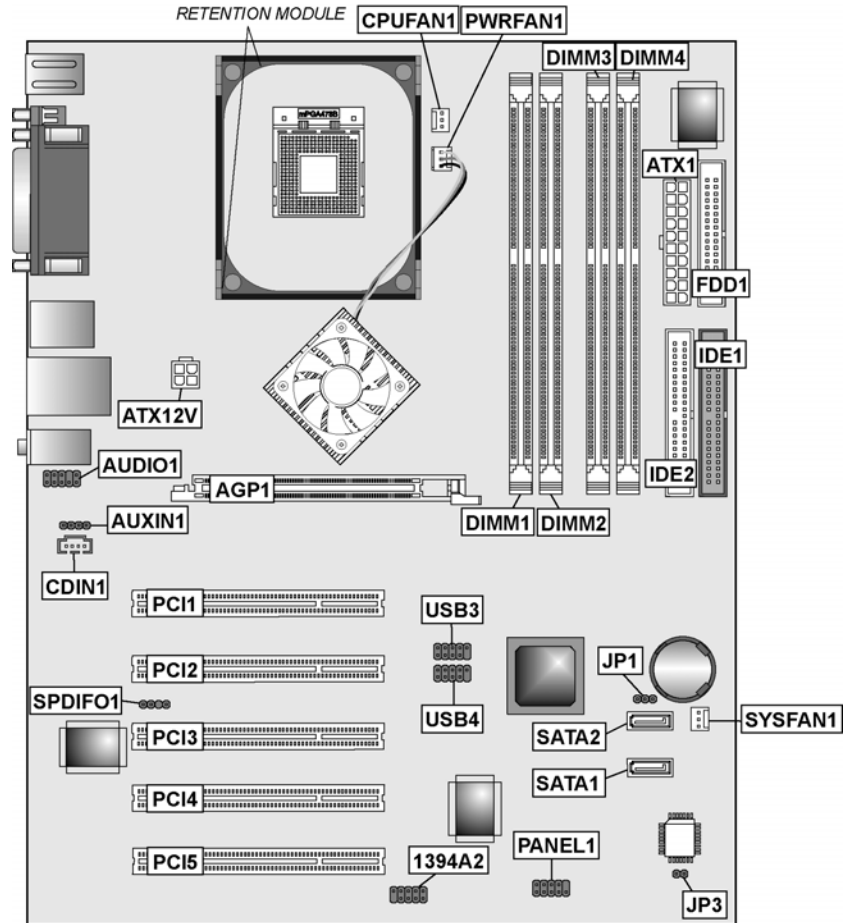
Table of Motherboard Components

Label	Component
1394A2	1394 header (for Intel 1394 cable)
AGP1	One Accelerated Graphics Port slot (1.5V only)
ATX1	Standard 20-pin ATX power supply connector
ATX12V	Auxiliary 4-pin case power supply connector
AUDIO1	MIC/Speak-out header (Front panel)
AUXIN1	Auxiliary audio input header for CD-ROM audio cable (Sony)
CDIN1	Primary CD-in connector for CD-ROM audio cable (Sony)
CPU1	478-pin mPGA478 socket
CPUFAN1	Cooling fan for CPU
DIMM1 ~ DIMM4	Four 184-pin DDR SDRAM sockets
FDD1	Floppy Diskette Drive connector
IDE1	Primary IDE connector (Blue)
IDE2	Secondary IDE connector
JP1	Clear CMOS jumper
JP3	BIOS Protect jumper
PANEL1	Connector for case front panel switches and LED indicators
PCI 1 ~ PCI 5	Five 32-bit Peripheral Components Interconnect slots; slot 5 is slave only
PWRFAN1	Northbridge heatsink cooling fan
Retention Module	Module to hold the CPU fan and heatsink
SATA1 ~ SATA2	Two Serial ATA connectors
SPDIFO1	SPDIF out header
SYSFAN1	Case cooling fan connector
USB3 ~ USB4	Connectors for front panel USB ports

This is the end of Chapter 1. The following chapter explains how to install the motherboard.

Installing the Motherboard

Safety Precautions

Follow these safety precautions when installing the motherboard:

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

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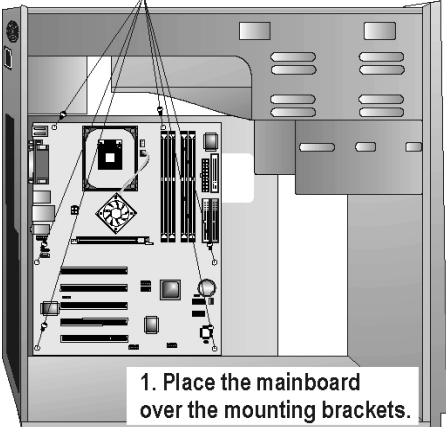
This Quick Guide suggests the steps you can take to assemble your system with the motherboards.

The following table provides a reference for installing specific components:

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the mother-board in a case:

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

Note: Do not over-tighten the screws as this can stress the motherboard.

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

2. Secure the mainboard with screws where appropriate.

1. Place the mainboard over the mounting brackets.

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

Checking Jumper Settings

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

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

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

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

Short   **Open**

7
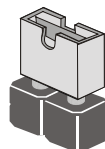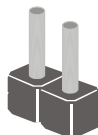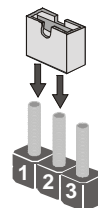
Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.
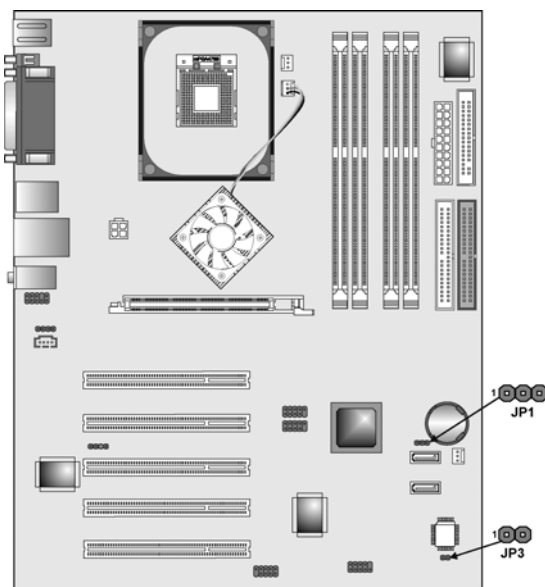
Jumper Settings

Jumper	Type	Description	Setting (*default*)	
JP1	3-pin	Clear CMOS	1-2 Normal (Default) 2-3 Clear CMOS	**1** ⬛⬜ **JP1**
JP3	2-pin	BIOS Protect	Open: Disable (Default) Short: Enable	**JP3** **1** ⬜⬜

JP1: Clear CMOS jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds. Note: Before clear the CMOS, the AC power of power supply should be removed.

JP3: BIOS Protect jumper

Enables you to prevent the BIOS from being updated (flashed). Set the jumper to disabled if you are going to update your BIOS. After updating the BIOS, return it to the default setting (Enabled).

8

Connecting Case Components

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

1. Connect the CPU cooling fan cable to **CPUFAN1**.
2. Connect the NorthBridge cooling fan connector to **PWRFAN1**.
3. Connect the case cooling fan connector to **SYSFAN1.**
4. Connect the case switches and indicator to **PANEL1**.
5. Connect the standard power supply connector to **ATX1**.
6. Connect the auxiliary power supply connector to **ATX12V**.

CPUFAN1/PWRFAN1/SYSFAN1: FAN Power Connectors

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

ATX1: ATX 20-pin Power Connector

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

9

ATX12V: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Front Panel Connector

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

PANEL1

Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED (positive)	2	FP PWR/SLP	MSG LED [dual color or single color (+)]
3	HD_LED_N	Hard disk active LED (negative)	4	FP PWR/SLP	MSG LED [dual color or single color (-)]
5	RST_SW_N	Reset Switch	6	PWR_SW_P	Power Switch
7	RST_SW_P	Reset Switch	8	PWR_SW_N	Power Switch
9	RSVD	Reserved	10	NC	No pin

Hard Drive Activity LED

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

Power / Sleep / Message Waiting LED

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

Reset Switch

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

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a

momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing Hardware

Installing the Processor

> **Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.**
>
> **On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.**
>
> **Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.**

Before installing the Processor

S865PE automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

> **Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.**

S865PE has an mPGA478 socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

The following illustration shows CPU installation components:
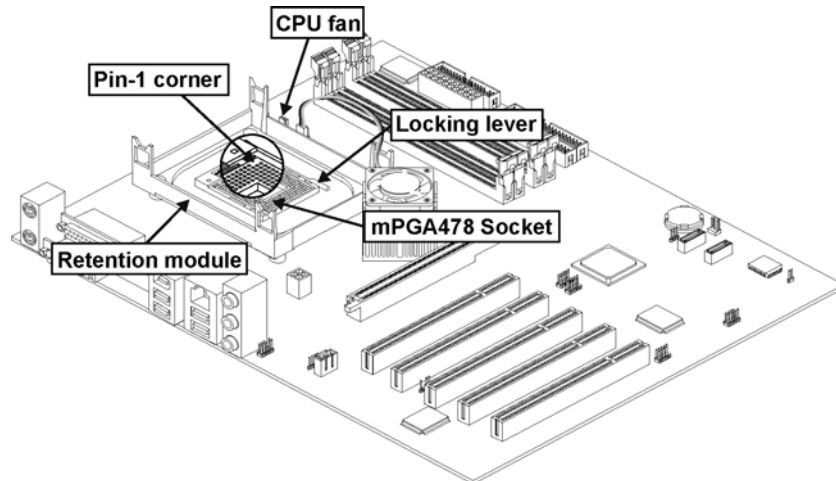
Note: The pin-1 corner is marked with an arrow ▶

Follow these instructions to install the Retention Module and CPU:

1. Remove the existing retention module (if applicable).

2. Position the backplate against the underside of the motherboard; secure the 4 screws firmly on the retention module.

   Note: Do not over-tighten the screws.
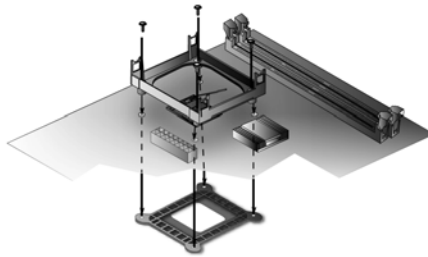
3. Install your CPU. Pull up the lever away from the socket and lift up to 90-degree angle.
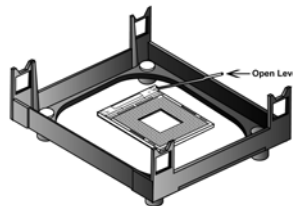
4. Locate the CPU cut edge (the corner with the pinhole noticeably missing). Align and insert the CPU correctly.
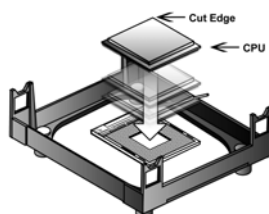
5. Press the lever down.
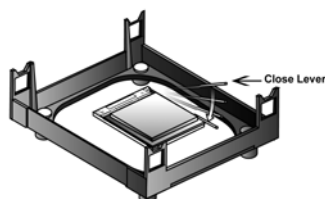
6. Apply thermal grease on top of the CPU.

7. Put the CPU Fan down on the retention module and snap the four retention legs of the cooling fan into place.
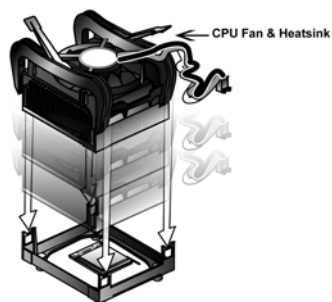
8. Flip the levers over to lock the heat sink in place.

9. Connect the CPU Cooling Fan power cable to the CPUFAN1 connector. This completes the installation.
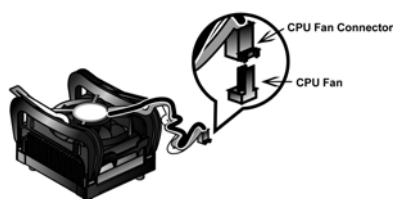
Notes:
- To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 4800 rpm at least.
- CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

Installing Memory Modules

S865PE accommodates four un-buffered 184-pin 2.5V Double Data Rate (DDR) SDRAM memory modules. It provides the standard 800 / 533 / 400 MHz CPU front side bus with extra capability. It supports DDR SDRAM at 400 / 333 / 266 MHz operation. Since S865PE accommodates four memory modules. You must install at least one module in any of the four slots. Each module can be installed with 128 MB to 1 GB of memory and the total memory capacity is 4 GB.

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

Refer to the following to install the memory modules.

1. S865PE supports un-buffered DDR SDRAM only. Do not attempt to insert any other type of DDR SDRAM into the slots.
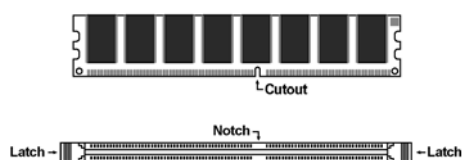
2. Push the latches on each side of the DIMM slot down.

3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
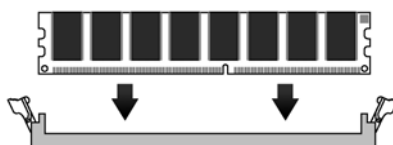
4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.

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

6. Install any remaining DIMM modules.

Installing a Hard Disk Drive/SATA Hard Drive/CD-ROM

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive. Your motherboard has a primary and secondary IDE channel interface (IDE1 and IDE2). An IDE ribbon cable supporting two IDE devices is bundled with the motherboard. If you want to install more than two IDE devices, get a second IDE cable and you can add two more devices to the secondary IDE channel.

IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.
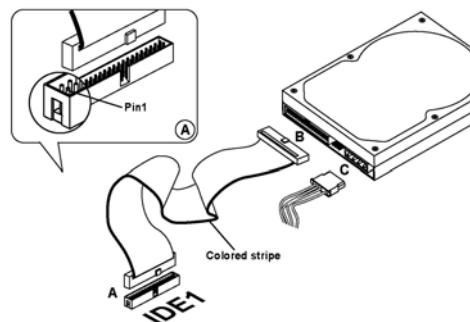
IDE2: Secondary IDE

The second drive on this controller must be set to slave mode. The configuration is the same as IDE1
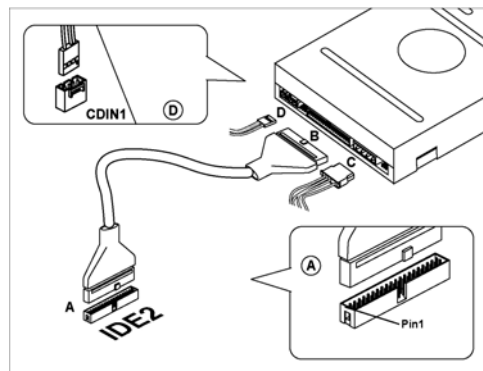
> You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

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

About SATA Connectors

Your motherboard features two SATA connectors supporting a total of two drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard (see page 23) and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with an SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connecter on the motherboard.

SATA cable   **SATA power cable (optional)**

Refer to the illustration below for proper installation:

1. Attach either cable end to the connector (**A**) on the motherboard.

2. Attach the other cable end (**B**) to the SATA hard drive.

3. Attach the SATA power cable to the SATA hard drive (**C**) and connect the other end to the power supply.
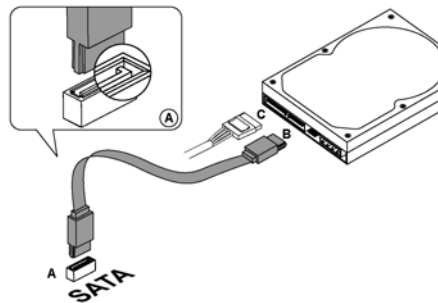
Note: This motherboard does not support the "Hot-Plug" function.

About UltraDMA

UltraDMA is a technology that accelerates the performance of devices in the IDE channel. S865PE supports two UltraDMA 100 / 66 / 33. To maximize performance, install IDE devices that support UDMA and use 80-pin IDE cables that support UDMA 100 / 66 / 33.

Installing Add-on Cards

The slots in S865PE are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.
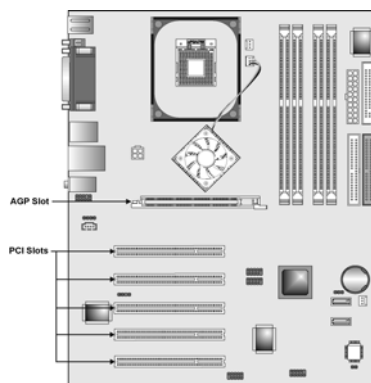
AGP Slot	The Accelerated Graphics Port (AGP) slot is used to install 3D graphics adapter that supports the 8x AGP card that is also backward compatible with 4x AGP card. The slot is keyed to support only the latest 1.5-volt AGP cards.
PCI Slots	S865PE is equipped with five standard Peripheral Components Interconnect (PCI) slots. PCI slot 5 only support slave card). PCI is a bus standard for expansion cards and a supplement of the older ISA bus standard. These PCI slots are designated 32-bit.

Follow these instructions to install an add-on card:

1. Remove a blanking plate from the system case corresponding to the slot you are going to use.
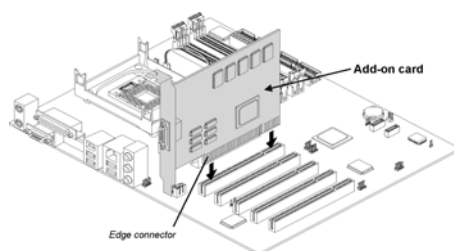
2. Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.

3. Secure the metal bracket of the card to the system with a screw.

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

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:
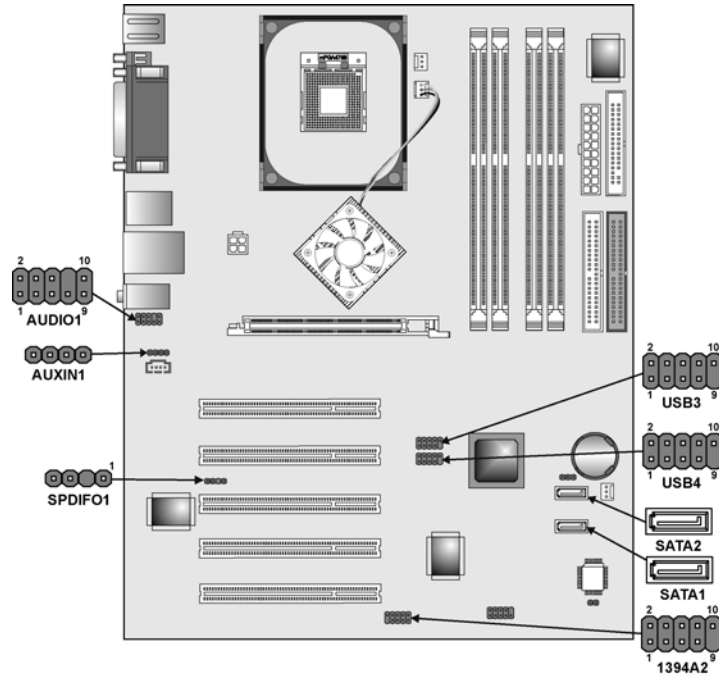
AUDIO1: Front Panel Audio header

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

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

AUXIN1: Auxiliary-in header

This connector is an additional line-in audio connector. It allows you to attach a line-in cable when your rear line-in jack is set as line out port for 4-channel function.

Pin	Signal Name	Function
1	AUX_L	AUX In left channel
2	GND	Ground
3	GND	Ground
4	AUX_R	AUX In right channel

SPDIFO1: SPDIF-out header

You can purchase an optional 24-bit digital audio extension bracket from a third-party vendor. You can use the audio RCA jacks to connect to digital audio devices. If your CD-ROM/DVD drive has digital audio output, you can connect it to the input pins of the SPDIF-out header.

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	+5VA	5V analog power
3	NC (key)	Not connected (Key pin)
4	GND	Ground

1394A2: IEEE 1394A header

Use this header to connect to any IEEE 1394A interface.

Pin	Signal Name	Pin	Signal Name
1	TPA+	2	TPA-
3	GND	4	GND
5	TPB+	6	TPB-
7	Cable-Power	8	Cable-Power
9	Key Pin	10	GND

SATA1/SATA2: Serial-ATA connectors

These connectors are use to support the new Serial ATA devices for the highest date transfer rates (150 MB/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	GND	2	TX+
3	TX-	4	GND
5	RX-	6	RX+
7	GND	-	-

USB3/USB4: Front panel USB ports

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connectors USB3 and USB4 to connect the front-mounted ports to the motherboard.

USB3

Pin	Signal Name	Function
1	VREG_FP_USBPWR0	Front Panel USB Power
2	VREG_FP_USBPWR0	Front Panel USB Power
3	USB_FP_P5-	USB Port 5 Negative Signal
4	USB_FP_P4-	USB Port 4 Negative Signal
5	USB_FP_P5+	USB Port 5 Positive Signal
6	USB_FP_P4+	USB Port 4 Positive Signal
7	GND	Ground
8	GND	Ground
9	KEY	No pin
10	USB_FP_OC0 or NC	Over-current signal or not connected

USB4

Pin	Signal Name	Function
1	VREG_FP_USBPWR0	Front Panel USB Power
2	VREG_FP_USBPWR0	Front Panel USB Power
3	USB_FP_P7-	USB Port 7 Negative Signal
4	USB_FP_P6-	USB Port 6 Negative Signal
5	USB_FP_P7+	USB Port 7 Positive Signal
6	USB_FP_P6+	USB Port 6 Positive Signal
7	GND	Ground
8	GND	Ground
9	KEY	No pin
10	USB_FP_OC0 or NC	Over-current signal or not connected

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

Connecting I/O Devices

The back plane of the motherboard has the following I/O ports:
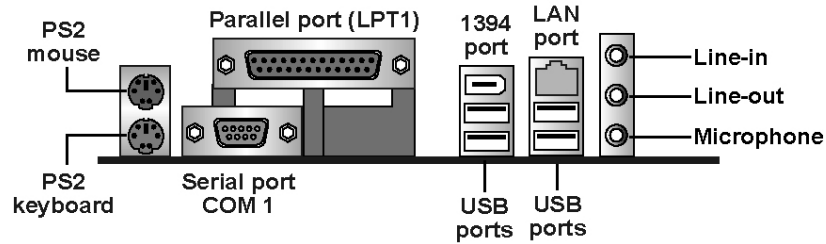
PS2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Serial Port/COM1	Use the COM ports to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
Parallel Port/LPT1	Use LPT1 to connect printers or other parallel communications devices.
1394 Port	Use the 1394 port to connect any FireWire device.
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.
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.

External Connector Color Coding

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

Connector	Color
Audio line-in	Light blue
Audio line-out	Lime
IEEE 1394	Gray
Microphone	Pink
Parallel	Burgundy
PS2-compatible keyboard	Purple
PS2-compatible mouse	Green
Serial	Teal or Turquoise
Right-to-left speaker	Brown
USB	Black
SCSI, network, telephone, modem	None

This column concludes Chapter 2, as the next chapter covers the BIOS.

About the Setup Utility

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

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

The BIOS Setup Utility enables you to configure:

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

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

This chapter provides explanations for Setup Utility options.

The Standard Configuration

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

This Setup Utility should be used:

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

Entering the Setup Utility

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

Press DEL to enter SETUP

Pressing the delete key ▢ accesses the BIOS Setup Utility:

Phoenix – AwardBIOS CMOS Setup Utility

►Standard CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Defaults
►Advanced Chipset Features	Load Optimized Defaults
►Integrated Peripherals	Set Supervisor Password
►Power Management Setup	Set User Password
►PnP/PCI Configurations	Save & Exit Setup
►PC Health Status	Exit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item
Time, Date, Hard Disk Type . . .	

BIOS Navigation Keys

The BIOS navigation keys are listed below:

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

Updating the BIOS

You can download and install updated BIOS for S865PE from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

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

2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)

3. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)

4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.

5. Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)

6. At the A:\ prompt, type the Flash Utility program name and press <Enter>. You see a screen similar to the following:

```
              FLASH MEMORY WRITER V7.33
       (C) Award Software 1999 All Rights Reserved

For (MOTHERBOARD NAME)        DATE: 10/26/2000
Flash Type
File Name to Program :█████████████████████



Error Message
```

7. Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.

8. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

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

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

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

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

Standard CMOS Features

This option displays basic information about your system.

Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features

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

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

Date and Time

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

► **IDE Devices (None)**

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

25

Press <Enter> to display the IDE submenu:

Phoenix – AwardBIOS CMOS Setup Utility
IDE Primary Master

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

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

IDE HDD Auto-Detection

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

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

IDE Primary/Secondary Master/Slave (Auto)

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

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

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

Access Mode

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

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

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

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

Floppy 3 Mode Support (Disabled)

Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy

3 mode is sometimes used in Japan.

Video (EGA/VGA)

This item defines the video mode of the system. S865PE has a built-in VGA graphics system; you must leave this item at the default value.

Halt On (All Errors)

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

Base Memory, Extended Memory, and Total Memory

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

Advanced BIOS Features

This option defines advanced information about your system.

<div align="center">Phoenix – AwardBIOS CMOS Setup Utility
Advanced BIOS Features</div>

```
┌─────────────────────────────────────────────────┬──────────────────────┐
│ ► Hard Disk Boot Priority        [Press Enter]   │      Item Help       │
│   Hyper-Threading Technology     [Enabled]       │                      │
│   Quick Power On Self Test       [Enabled]       │  Menu Level   ►      │
│   First Boot Device              [Floppy]        │  Allows you to choose│
│   Second Boot Device             [Hard Disk]     │  the VIRUS warning   │
│   Third Boot Device              [CD-ROM]        │  feature for IDE Hard│
│   Boot Other Device              [Enabled]       │  Disk boot sector    │
│   Swap Floppy Drive              [Disabled]      │  protection. If this │
│   Boot Up Floppy Seek            [Disabled]      │  function is enabled │
│   Boot Up NumLock Status         [On]            │  and someone attempts│
│   Gate A20 Option                [Fast]          │  to write data into  │
│   Typematic Rate Setting         [Disabled]      │  this area, BIOS will│
│ x Typematic Rate (Chars/Sec)     6               │  show a warning      │
│ x Typematic Delay (Msec)         250             │  message on screen   │
│   Security Option                [Setup]         │  and alarm beep      │
│   APIC Mode                      [Enable]        │                      │
│   OS Select For DRAM > 64MB      [Non-OS2]       │                      │
│   HDD S.M.A.R.T. Capability      [Disabled]      │                      │
│   Report No FDD For WIN 95       [Yes]           │                      │
│   Small Logo (EPA) Show          [Disabled]      │                      │
└─────────────────────────────────────────────────┴──────────────────────┘
↑↓→←: Move    Enter : Select    +/-/PU/PD:Value:   F10: Save   ESC: Exit   F1:General Help
          F5:Previous Values         F6:Fail-Safe Defaults    F7:Optimized Defaults
```

Hard Disk Boot Priority (Press Enter)

Use this option to select the hard disk boot priority.

Hyper-Threading Technology (Enabled)

This item is only available when the chipset supports Hyper-Threading and you are using a Hyper-Threading CPU.

Quick Power On Self Test (Enabled)

Enable this item to shorten the power on testing (POST) and have your sys-

tem start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device (Floppy/Hard Disk/CD-ROM)

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

Boot Other Device (Enabled)

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

Swap Floppy Drive (Disabled)

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

Boot Up Floppy Seek (Disabled)

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Boot Up NumLock Status (On)

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

Gate A20 Option (Fast)

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

Typematic Rate Setting (Disabled)

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

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

Security Option (Setup)

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

APIC Mode (Enable)

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

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

This item is only required if you have installed more than 64 MB of memory

and you are running the OS/2 operating system. Otherwise, leave this item at
the default.

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

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

Report No FDD For WIN 95 (Yes)

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

Small Logo (EPA) Show (Disabled)

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

Advanced Chipset Features

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

Phoenix – AwardBIOS CMOS Setup Utility
Advanced Chipset Features

```
┌─────────────────────────────────────────────────────┬──────────────────────┐
│  x  DRAM Timing Selectable        [SPD]         ▲    │     Item Help        │
│  x  CAS Latency Time              [2.5]         │    ├──────────────────────┤
│  x  Active to Precharge Delay     [7]           │    │ Menu Level    ►      │
│  x  DRAM RAS# to CAS# Delay       [3]           │    │                      │
│     DRAM RAS# Precharge           [3]           │    │                      │
│     Memory Frequency For          [Auto]        │    │                      │
│     System BIOS Cacheable         [Disabled]    │    │                      │
│     Video BIOS Cacheable          [Disabled]    │    │                      │
│     Delay Prior to Thermal        [16 Min]      │    │                      │
│     AGP Aperture Size (MB)        [128]         │    │                      │
│     Init Display First            [PCI Slot]    │    │                      │
│  ** Photon Acceleration Technology **           │    │                      │
│     Fast Chip Select              [Auto]        │    │                      │
│     CPC Addr/Control              [Auto]        │    │                      │
│     Turbo Mode                    [Auto]        │    │                      │
│                                                 │    │                      │
│                                                 │    │                      │
│                                                 ▼    │                      │
└─────────────────────────────────────────────────────┴──────────────────────┘
```

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

DRAM Timing Selectable (SPD)

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

CAS Latency Time: (2.5)

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

Active to Precharge Delay (7)

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

DRAM RAS# to CAS# Delay (3)

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

DRAM RAS# Precharge (3)

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

Memory Frequency For (Auto)

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

System BIOS Cacheable (Disabled)

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

Video BIOS Cacheable (Disabled)

This item allows the video BIOS to be cached in memory for faster execution. Enable these items for better performance.

Delay Prior to Thermal (16 Min)

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

AGP Aperture Size (MB) (128)

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

Init Display First (PCI Slot)

This item allows you to choose the primary display card.

Fast Chip Select (Auto)

This item allows you to read the Data transfer from CPU to GMCH.

CPC Addr/Control (Auto)

This enables the DDR channel A and channel B memory access to reduce the loading for selective CPC (Clock Per Command).

Turbo Mode (Auto)

This item increases the performance of CPU L2 cache timing at high speed.

Integrated Peripherals

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

Phoenix – AwardBIOS CMOS Setup Utility
Integrated Peripherals

			Item Help
► OnChip IDE Device	[Press Enter]		
► Onboard Device	[Press Enter]		Menu Level ►
► SuperIO Device	[Press Enter]		

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

►OnChip IDE Device

Scroll to this item and press <Enter> to view the following screen:

Phoenix – AwardBIOS CMOS Setup Utility
OnChip IDE Device

		Item Help
IDE HDD Block Mode	[Enabled]	
On-Chip Primary PCI IDE	[Enabled]	Menu Level ►
IDE Primary Master PIO	[Auto]	
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	
IDE Primary Slave UDMA	[Auto]	
On-Chip Secondary PCI IDE	[Enabled]	
IDE Secondary Master PIO	[Auto]	
IDE Secondary Slave PIO	[Auto]	
IDE Secondary Master UDMA	[Auto]	
IDE Secondary Slave UDMA	[Auto]	
** On-Chip Serial ATA Setting **		
SATA Mode	[IDE]	
On-chip Serial ATA	[Disabled]	
Serial ATA Port0 Mode	[Primary Master]	
Serial ATA Port1 Mode	Primary Master	

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

IDE HDD Block Mode (Enabled)

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

On-Chip Primary/Secondary PCI IDE (Enabled)

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.

IDE Primary/Secondary Master/Slave PIO (Auto)

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

IDE Primary/Secondary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device device. S865PE supports UltraDMA technology, which provides faster access to IDE devices.

If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with S865PE in order to use an UltraDMA device.

SATA Mode (IDE)

Use this item to select the mode of the Serial ATA.

On-chip Serial ATA (Disabled)

Enables and disables the built-in on-chip serial ATA.

Serial ATA Port0/Port1 Mode (Primary Master)

Use this item to select the SATA0 master or SATA1 master.

►Onboard Device

Scroll to this item and press <Enter> to view the following screen:

Phoenix – AwardBIOS CMOS Setup Utility
Onboard Device

		Item Help
USB Controller	[Enabled]	Menu Level ►
USB 2.0 Controller	[Enabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
AC97 Audio	[Auto]	
Onboard LAN Device	[Enabled]	
Onboard LAN Boot ROM	[Disabled]	
Onboard 1394 Device	[Enabled]	

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

USB Controller (Enabled)

Enable this item if you plan to use the Universal Serial Bus ports on S865PE.

USB 2.0 Controller (Enabled)

Enable this item if want to use the USB 2.0 controller.

USB Keyboard Support (Disabled)

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

USB Mouse Support (Disabled)

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

AC97 Audio (Auto)

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

Onboard LAN Device (Enabled)

Enables and disables the onboard LAN.

Onboard LAN BOOT ROM (Disabled)

This item allows you to enable or disable the onboard LAN Boot ROM function.

Onboard 1394 Device (Enabled)

Enables and disables the onboard 1394 device.

►SuperIO Device

Scroll to this item and press <Enter> to view the following screen:

Phoenix – AwardBIOS CMOS Setup Utility
SuperIO Device

		Item Help
POWER ON Function	[Hot KEY]	Menu Level ►
KB Power ON Password	[Enter]	
Hot Key Power On	[Ctrl-F12]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[ECP]	
ECP Mode Use DMA	[3]	
Power On After Power Fail	[Off]	

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

POWER ON Function (Hot KEY)

This feature allows you to set the method by which your system can be turned on.

KB Power ON Password (Enter)

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

HotKey Power On (Ctrl-F12)

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

Onboard Serial Port 1 (3F8/IRQ4)

Select a logical COM port name and matching address for the first and second serial ports. Select an address and corresponding interrupt for the first and second serial ports.

Onboard Parallel Port (378/IRQ7)

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

Parallel Port Mode (ECP)

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

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

ECP Mode Use DMA (3)

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

Power On After Power Fail (Off)

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

Power Management Setup

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

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

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

Phoenix – AwardBIOS CMOS Setup Utility
Power Management Setup

		Item Help
S4/S5 5VSB Power	[Enabled]	
ACPI Suspend Type	[S3 (STR)]	
Run VGABIOS if S3 Resume	[Auto]	Menu Level ►
Video Off Method	[DPMS]	
Video Off In Suspend	[Yes]	
Suspend Type	[Stop Grant]	
MODEM Use IRQ	[3]	
Suspend Mode	Disable	
HDD Power Down	Disable	
Soft-Off by PWR-BTTN	[Instant-Off]	
Resume by PME	[Enabled]	
Resume by Ring	[Disabled]	
Resume by USB (S3)	[Disabled]	
Resume by Alarm	[Disabled]	
x Date (of Month) Alarm	0	
x Time (hh:mm:ss) Alarm	0 0 0	
** Reload Global Timer Events **		

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

S4/S5 5VSB Power (Enabled)

This item enables S4/S5 stand-by power.

ACPI Suspend Type (S3 (STR))

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3

(STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

Run VGABIOS if S3 Resume (Auto)

This item allows the system to initialize the VGA BIOS from S3 (Suspend to RAM) sleep state.

Video Off Method (DPMS)

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

Video Off In Suspend (Yes)

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

Suspend Type (Stop Grant)

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

MODEM Use IRQ (3)

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

Suspend Mode (Disable)

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

HDD Power Down (Disable)

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

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

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

Resume by PME (Enabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

Resume by Ring (Disabled)

An input signal on the serial Ring Indicator (RI) line (in other words, an incom-

ing call on the modem) awakens the system from a soft off state.

Resume by USB (S3) (Disabled)

This option allows the activity of the USB devices (keyboard and mouse) to wake-up the system from S3 sleep state.

Resume by Alarm (Disabled)

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

PNP/PCI Configurations

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

Phoenix – AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

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

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

Reset Configuration Data (Disabled)

If enabled, this feature will reset the Extended System Configuration Data (ESCD) upon exiting Setup. This may correct hardware conflicts that prevent the Operating System from booting.

Resources Controlled By (Auto (ESCD))

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

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

submenus.

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

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

PCI/VGA Palette Snoop (Disabled)

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

Assign IRQ For USB (Enabled)

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

INT Pin 1~8 Assignment (Auto)

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

PC Health Status

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

Phoenix – AwardBIOS CMOS Setup Utility
PC Health Status

Shutdown Temperature	[Disabled]	Item Help
Target Temperature	[Disabled]	
Current System Temperature		Menu Level ►
Current CPU Temperature		
SYS FAN Speed		
CPU FAN Speed		
PWR FAN Speed		
CPU Vcore		
1.50 V		
3.30 V		
5.00 V		
Battery Voltage		

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

Target Temperature

This item enables throttling when CPU targets the temperature.

Shutdown Temperature

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

System Component Characteristics

These items allow end users and technicians to monitor data provided by the BIOS on S865PE. You cannot make changes to these fields.

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

Frequency Control

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

Phoenix – AwardBIOS CMOS Setup Utility
Frequency Control

CPU Clock Ratio	[12X]	Item Help
Auto Detect PCI Clk	[Enabled]	
Spread Spectrum	[Enabled]	Menu Level ▶
Async AGP/PCI/SATA CLK	[Sync]	
CPU Clock	[by keyin]	

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

CPU Clock Ratio (12X)

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

Auto Detect PCI Clk (Enabled)

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

Spread Spectrum (Enabled)

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

Async AGP/PCI/SATA CLK (Sync)

This item allows you to select the fixed clock to generate the output to

AGP/PCI/SATA frequency.

CPU Clock (by keyin)

Use the CPU Host Clock to set the front side bus frequency for the installed processor (usually 133 MHz, 100 MHz or 66 MHz).

Load Fail-Safe Defaults Option

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

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

Load Optimized Defaults Option

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

Set Supervisor/User Password

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

ENTER PASSWORD

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

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

PASSWORD DISABLED

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

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

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

Save & Exit Setup Option

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

Exit Without Saving

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

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

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

Using the Motherboard Software

About the Software CD-ROM

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

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

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

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

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

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

The support software CD-ROM disc loads automatically under Windows 98/ME/2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.
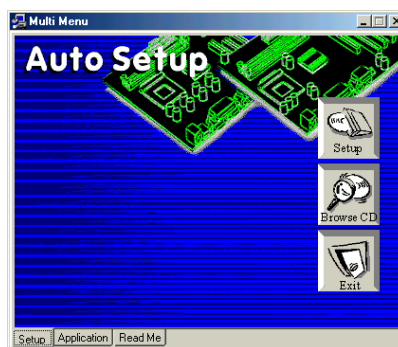
Note: If the opening screen doesn't appear, double-click the file "setup.exe" in the root directory.

Setup Tab

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

Application Tab

Lists the software utilities that are available on the CD.

Read Me Tab

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

Running Setup

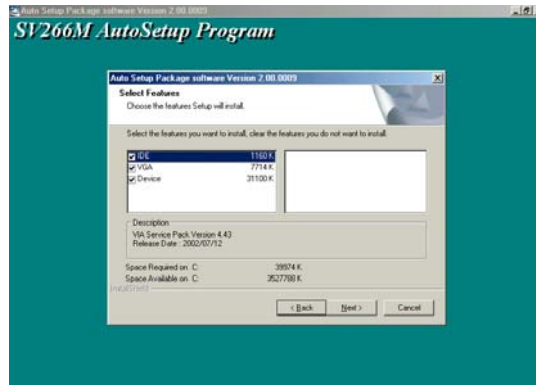Follow these instructions to install device drivers and software for the motherboard:

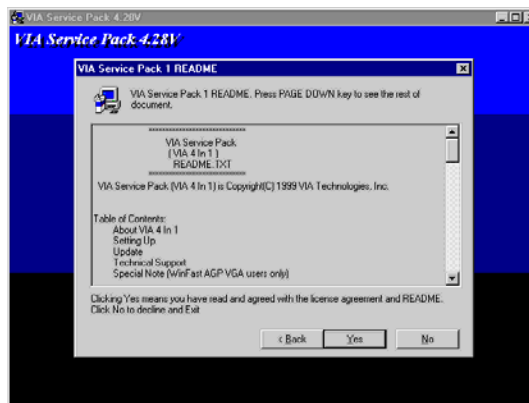1. Click **Setup**. The installation program begins:

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

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

3.   Check the box next to the items you want to install. The default options are recommended.

4.   Click **Next** run the Installation Wizard. An item installation screen appears:

5.   Follow the instructions on the screen to install the items.

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

Manual Installation

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

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

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

Utility Software Reference

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

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

AWARD Flash Memory Utility

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

WinFlash Utility

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

\UTILITY\WINFLASH 1.51

PC-CILLIN 2002

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

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

This concludes Chapter 4 and this user's manual.