TÜV CERT

CERTIFICATE

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

hereby certifies in accordance with TÜV CERT
procedure that

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

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

has established and applies a quality system for

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

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

Proof has been furnished that the requirements according to

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

are fulfilled. The certificate is valid until 27 January 2007

Certificate Registration No. 04100 2000 1325

The company has been certified since 2000

TGA-ZM-30-96-00

Essen, 04.03.2004

RWTÜV

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

ISO14001
CERTIFICATE

Certificate NO.: 05-2001-065

We hereby certify that

ECS Manufacturing(Shenzhen) Co.,Ltd

by reason of its

Environmental Management System

has been awarded this certificate for
compliance with the standard
ISO14001:1996
The Environmental Management System
applies in the following area:

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

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

SHENZHEN ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION CENTER

Preface

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Version 1.0

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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:

Chapter 1

Introducing the Motherboard   Describes features of the motherboard.

Chapter 2

Installing the Motherboard   Describes installation of motherboard components.

Chapter 3

Using BIOS   Provides information on using the BIOS Setup Utility.

Chapter 4

Using the Motherboard Software   Describes the motherboard software

TABLE OF CONTENTS

Multi-Language Translation

Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the 865PE-A7 motherboard. This motherboard is a high performance, enhanced function motherboard that supports LGA775 Pentium 4 processors for high-end business or personal desktop markets.

The motherboard incorporates the 865PE Northbridge (NB) and ICH5 Southbridge (SB) chipsets. The Northbridge supports a Front Side Bus (FSB) frequency of 800/533 MHz with maximum theoretical BW of 6.4 GB/s. The momory controller supports DDR memory DIMM frequencies of 400/333/266 MHz. It supports four DDR Sockets with up to maximum memory of 4 GB. DDR Maximum memory bandwidth of 3.2 GB/s in single-channel mode and 6.4 GB/s in dual-channel mode is supported. One AGP interface supports AGP 3.0 including 8X/4X AGP Data Transfers and 8X/4X Fast Write Protocol.

The ICH5 Southbridge supports five PCI slots which are PCI 2.3 compliant. It accomodates eight USB 2.0 ports for Serial Transfers at maximum 480Mb/s. This motherboard complies with AC' 97 2.3 codecs and supports up to six channels of PCM audio output (full AC3 decode). Two onboard IDE connectors support 4 IDE devices in ATA-100/66/33 mode. The Southbridge integrates two Serial ATA host controllers that is SATA v1.0 compliant, supporting two SATA ports with maximum transfer rate up to 150 MB/s each.

The 865PE-A7 motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, one serial port, one parallel port, four USB ports, one optional LAN port, and audio jacks for microphone in, line-in and line-out.

Feature

Processor

The 865PE-A7 uses a 775 pins socket type supporting LGA775 Pentium 4 processors that carries the following features:

- Accommodates Intel P4 Prescott processors
- Supports a system bus (FSB) of 800/533 MHz
- Supports "Hyper-Threading" technology CPU

"Hyper-Threading" technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate "logical" processors within the same physical processor.

Chipset

The 865PE Northbridge (NB) and ICH5 Southbridge (SB) chipset are based on an innovative and scalable architecture with proven reliability and performance.

865PE (NB)
- Supports Hub Interface (HI) 1.5 with 266 MB/s point-to-point connection to ICH5
- Supports AGP 3.0 with 8X/4X AGP data transfers and 8X/4X fast writes respectively
- Supports Single-channel & Dual-channel DDR memory interface
- Supports DDR400/333/266 DIMM modules
- Supports up to four unbuffered DIMM with 4 GB maximum memory size

ICH5 (SB)
- Supports up to five PCI Masters fully compliant with PCI 2.3 specificaiton at 33 MHz
- Supports 2 channels Ultra ATA 100 bus master IDE controllers
- Supports two Serial ATA Host Controllers
- Compliant with AC'97 v2.3 supporting 6 Channels of audio outputs
- Supports eight USB 2.0 ports for serial transfers at 480Mb/s maximum

Memory

- Supports DDR400/333/266 MHz DDR SDRAM memory module
- Accommodates four unbuffered DIMM of 2.6 volt DDR SDRAM
- Up to 1 GB per DIMM with maximum memory size up to 4 GB

Audio

- 865PE-A7 supports 16-bit stereo full-duplex AC'97 audio CODEC that is compliant with AC'97 v2.3 specification
- It comes with independent and variable sampling rate and advanced power management

Introducing the Motherboard

- It is incorporated with proprietary converter technology
- The digital interface circuitry operates from a 3.3V power supply and supports an AC'97 2.3 compliant SPDIF out function that allows easy connection from the PC to other electronic products
- It supports four analog line-level stereo inputs

Expansion Options

The motherboard comes with the following expansion options:

- One AGP 3.0 compliant slot with 8X/4X speed (supports 1.5V AGP interface only)
- Five 32-bit PCI v2.3 compliant slots
- Two 40-pin IDE low profile headers that support four IDE devices
- One floppy disk drive interface
- Two 7-pin SATA connectors

The 865PE-A7 motherboard supports UltraDMA bus mastering with transfer rates of 100/66 MB/s.

Onboard LAN (Optional)

The onboard LAN Controller provides the following features:

- Supports 100/10 Mb/s N-way auto-negotiation operation
- Supports half/full duplex capability
- Supports Wake-On-LAN(WOL) and remote wake-up function

Integrated I/O

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

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- Four USB ports
- One LAN port (optional)
- Audio jacks for microphone, line-in and line-out

BIOS Firmware

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

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memroy 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 with out prior notice.

Introducing the Motherboard

Motherboard Components

Table of Motherboard Components

LABEL	COMPONENT
1 CPU Socket	LGA775 socket for Pentium 4 CPUs
2 CPU_FAN	CPU cooling fan connector
3 DIMM1~DIMM4	2.5V 184-pin DDR SDRAM slots
4 FDD	Floppy diskette drive connector
5 ATX1	Standard 20-pin ATX power connector
6 IDE1	Primary IDE connector
7 IDE2	Secondary IDE connector
8 PWR_FAN	Power fan connector
9 CLR_CMOS	Clear CMOS jumper
10 SATA1~SATA2	Serial ATA connectors
11 F_PANEL	Panel connector for case switches and LEDs
12 BIOS_WP	BIOS protect jumper
13 SPK1	Speaker header
14 F_USB3~4	Front panel USB header
15 IR	Infrared header
16 CHS1*	Chassis detect header
17 JP1	LAN function enable/disable jumper
18 PCI1~PCI5	32-bit add-on card slots
19 SPDIF1	SPDIF out header
20 AGP	Accelerated Graphics Port slot
21 AUXIN1	Auxliary In header
22 CD_IN	Analog audio input header
23 F_AUDIO	Front panel audio header
24 SYS_FAN	Case cooling fan connector
25 ATX12V	Auxliary 4-pin power connector
26 PAT1~2	PAT jumpers

*Stands for optional components

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Introducing the Motherboard

Memo

Chapter 2
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

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the ATX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, 865PE-A7 supports one or two floppy diskette drives and four enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard carries a ATX form factor of 305 x 244 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

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

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

Installing the Motherboard

> *Do not over-tighten the screws as this can stress the motherboard.*

Checking Jumper Settings

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

Setting Jumpers

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 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.

SHORT   **OPEN**

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

Installing the Motherboard

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	LAN FUNCTION	1-2: ENABLE 2-3: DISABLE
CLR_CMOS	3-pin	CLEAR CMOS	1-2: CLEAR 2-3: NORMAL Before clearing the CMOS, make sure to turn off the system.
BIOS_WP	3-pin	BIOS FLASH PROTECT	OPEN: UNPROTECT SHORT: PROTECT
PAT1 PAT2	3-pin	Turbo Mode	1-2: DISABLE 2-3: ENABLE

Installing the Motherboard

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 **CPU_FAN**.
    2   Connect the case cooling fan connector to **SYS_FAN**.
    3   Connect the power fan connector to **PWR_FAN**.
    3   Connect the case speaker cable to **SPK1**.
    4   Connect the case switches and indicator LEDs to the **F_PANEL**.
    6   Connect the standard power supply connector to **ATX1**.
    7   Connect the auxiliary case power supply connector to **ATX12V**.

SYS_FAN/PWR_FAN: FAN Power Connectors

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

CPUFAN: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	CPU FAN control

Installing the Motherboard

SPK1: Internal speaker

Pin	Signal Name
1	VCC
2	Key
3	GND
4	Signal

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
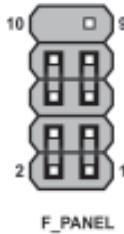
ATX12V: ATX 12V Power Connector

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

Installing the Motherboard

Front Panel Connector

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

F_PANEL

Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED+	2	FP PWR/SLP	*MSG LED+
3	HD_LED_N	Hard disk LED-	4	FP PWR/SLP	*MSG LED-
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	Key	No pin

* MSG LED (dual color or single color)

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 pin 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 debounce 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

This motherboard 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.*

This motherboard has an LGA775 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

The following illustration shows CPU installation components.

A. Unload the cap
- Use thumb & forefinger to hold the lifted tab of the cap.
- Lift the cap up and pick the cap completely from the socket.

B. Open the load plate
- Use thumb & forefinger to hold the hook of the lever and side pull the lever to unlock it.
- Lift up the level.
- Use thumb to open the load plate. Be careful not to touch the contacts.

C. Install the CPU on the socket
- Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.

D. Close the load plate
- Close the load plate, and slight push down of the load plate on the tongue side.
- CPU is locked completely.

To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 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 the Motherboard

Installing Memory Modules

This motherboard accomodates four memory modules. It can support four 184-pin 2.5V unbuffered DIMM, DDR400/333/266. The total memory capacity is 4GB.

DDR SDRAM memory module table

Memory module	Memory Bus
DDR266	*133MHz*
DDR333	*166MHz*
DDR400	*200MHz*

You must install at least one module in any of the three slots. Each module can be installed with 128 MB to 1 GB of memory; 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.

Installation Procedure

Refer to the following to install the memory modules.

1   This motherboard supports unbuffered DDR SDRAM only.
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 the Motherboard

Table A: DDR (memory module) QVL (Qualified Vendor List)

The following DDR400 memory modules have been tested and qualified for use with this motherboard.

Size	Vendor	Module Name
128MB	Infineon	HYB25D256160BT-5B
	NANYA	NT5DS16M16BT-5
	NANYA	NT5DS16M16BT-5T
256MB	Apacer	A2S56D30ATP
	Infineon	HYB25D256800CE-5C
	Micron	MT46V32M8-5BC
	Micron	MT46V16M8-5 ESB
	Ramaxel	HYB25D256800CE-5C
	SAMSUNG	K4H560838D-TCC4
512MB	Apacer	HYB25D256800BT-5B
	Micron	MT46V32M8-5BC
	NANYA	NT5DS32M8BT-5T
	SAMSUNG	K4H560838D-TCC4
	SAMSUNG	K4H560838E-TCCC

Table B: Recommended dual-channel DDR configurations

DIMM1	DIMM2	DIMM3	DIMM4	Dual Channel
√		√		√
	√		√	√
√	√	√	√	√

Notes: 1. When using dual channel mode, install only same (same density, DRAM technology and DRAM bus width) module for each deal channel.

2. Memory module installed into one or any four DIMMs will function in single channel mode.

Installing the Motherboard

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

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

About IDE Devices

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.

You must orient the cable connector so that the pin1 (color) edge of the cable correspoinds to the pin 1 of the I/O port connector.

IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.

IDE2: Secondary IDE Connector

The second drive on this controller must be set to slave mode. The cinfiguration is the same as IDE1.

IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. 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.

Installing the Motherboard

About SATA Connectors

This 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 20) 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 connector on the motherboard.

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

Refer to the illustration below for proper installation:

    1   Attach either cable end to the connector on the motherboard.
    2   Attach the other cable end to the SATA hard drive.
    3   Attach the SATA power cable to the SATA hard drive and connect the other
          end to the power supply.

This motherboard does not support the "Hot-Plug" function.

Installing the Motherboard

Installing a Floppy Diskette Drive
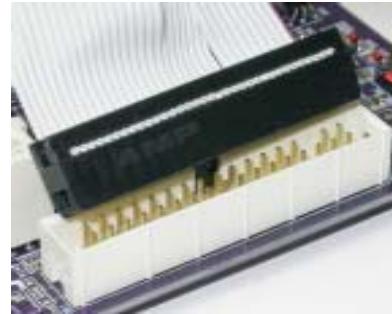
The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.

> *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.*

FDD1: Floppy Disk Connector
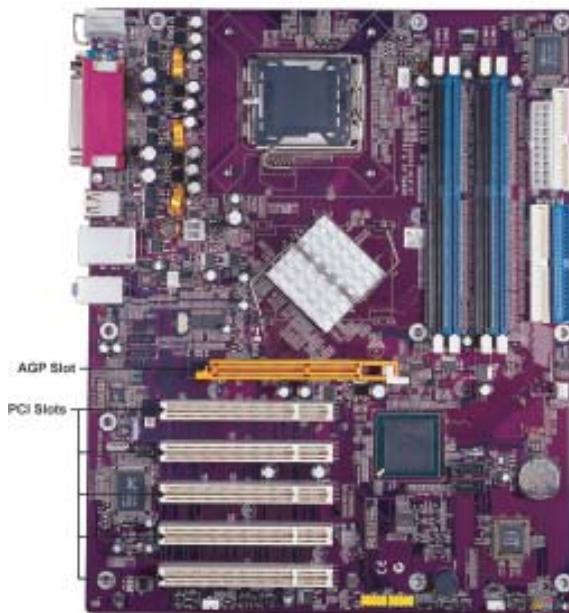
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.

Installing the Motherboard

Installing Add-on Cards

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

AGP Slot   The AGP slot is used to install a graphics adapter that supports the 8X/4X AGP specification. It is AGP 3.0 compliant.

PCI Slots   This motherboard is equipped with five standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.3 compliant.

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

Installing the Motherboard

Follow these instructions to install an add-on card:
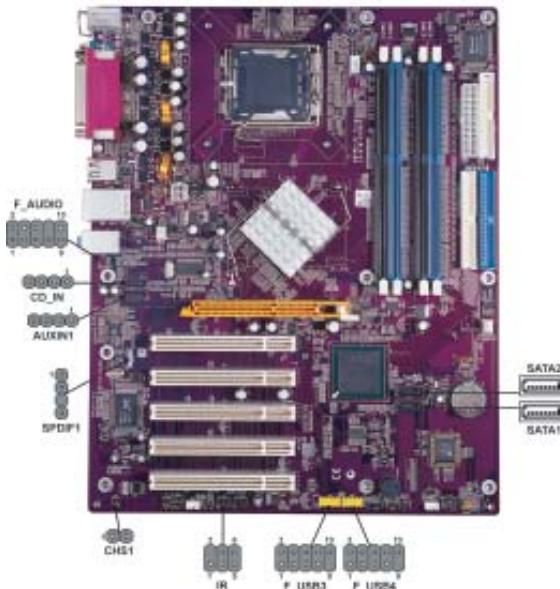
1   Remove a blanking plate from the system case corresponding to the slot you are going to use.
2   Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3   Secure the metal bracket of the card to the system case with a screw.

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:

Installing the Motherboard

SPDIF1: SPDIF out header

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coaxial connector.

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	+5VA	5V analog Power
3	Key	No pin
4	GND	Ground

F_AUDIO: 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 +5V used by Analog Audio Circuits
5	AUD_F_R	Right Channel audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	REVD	Reserved
8	Key	No Pin
9	AUD_F_L	Left Channel Audio signal to Front Panel
10	AUD_RET_L	Left Channel Audio signal to Return from Front Panel

CD-IN: CD Audio Input header

Pin	Signal Name	Function
1	CD in_L	CD In left channel
2	GND	Ground
3	GND	Ground
4	CD in_R	CD In right channel

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	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

F_USB3/4: Front Panel USB header

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

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	USB_FP_OC0	Overcurrent signal

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

IR: Serial infrared header

The motherboard supports an Infrared (IR) data header. Infrared header allow the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Assistants (PDAs), and other computers.

Pin	Signal Name	Function
1	Not assigned	Not assigned
2	Key	No pin
3	+5V	IR Power
4	GND	Ground
5	IRTX	IrDA serial output
6	IRRX	IrDA serial input
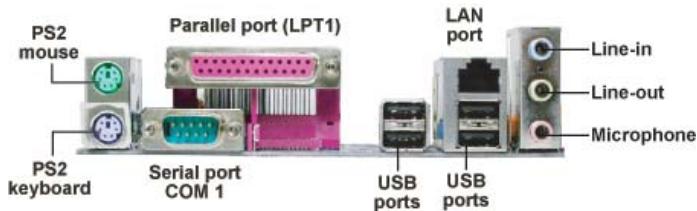
AUXIN1: Auxliary In header

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

Installing the Motherboard

Connecting I/O Devices

The backplane 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.
Parallel Port (LPT1)	Use LPT1 to connect printers or other parallel communications devices.
Serial Port (COM1)	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB Ports	Use the USB ports to connect USB devices.
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.

This concludes Chapter 2. The next chapter covers the BIOS.

Chapter 3

Using 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
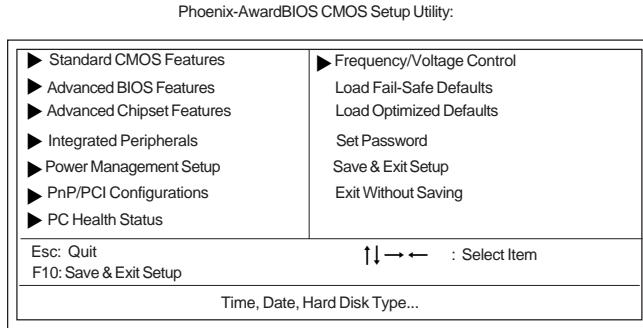
Entering the Setup Utility

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 Password
▶ Power Management Setup	Save & Exit Setup
▶ PnP/PCI Configurations	Exit Without Saving
▶ PC Health Status	

Esc: Quit   ↑↓ → ←   : Select Item
F10: Save & Exit Setup

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 this motherboard 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>.

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)          Mon, Nov 17 2003
   Time (hh:mm:ss)          13 :   4 : 54            Item Help
 ▶ IDE Channel 0 Master
 ▶ IDE Channel 0 Slave
 ▶ IDE Channel 1 Master
 ▶ IDE Channel 1 Slave                            Menu Level      ▶

                                                  Change the day, month,
   Drive A                  [1.44M, 3.5 in.]      year and century.
   Floppy 3 Mode Support    [Disabled]

   Video                    [EGA/VGA]
   Halt On                  [All Errors]

   Base Memory                   640K
   Extended Memory             65535K
   Total Memory                 1024K

 ↑↓→←: 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). In addition, this motherboard supports two SATA channels (Primary and Secondary) and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.

Press <Enter> to display the IDE submenu:

```
                  Phoenix-AwardBIOS CMOS Setup Utility
                          IDE Primary Master

   IDE HDD Auto-Detection      [ Press Enter]      Item Help
   IDE Channel 1 Master        [Auto]
   Access Mode                 [Auto]
   Capacity                    0   MB
   Cylinder                    0                   Menu Level      ▶▶
   Head                        0
   Precomp                     0                   To  auto-detect the HDD's
   Landing Zone                0                   size, head...on this chan-
   Sector                      0                   nel

 ↑↓→←: 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.

> *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 Channel 0/1 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.

> *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 (Auto)

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 (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. This motherboard 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.
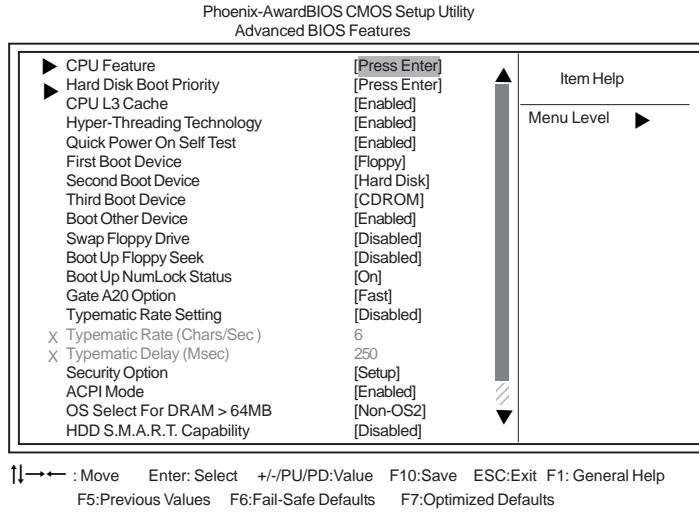
Base Memory, Extended Memory, and Total Memory

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

Using BIOS
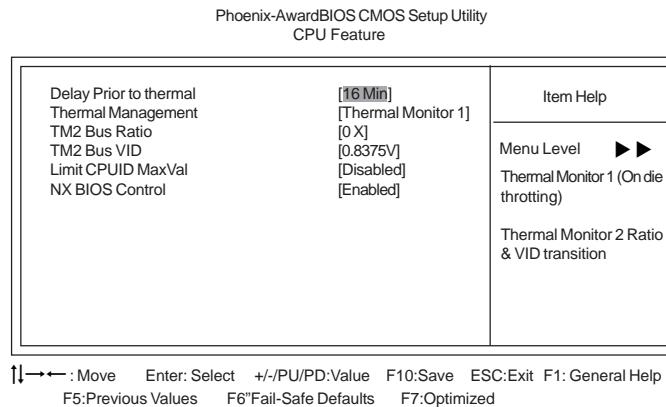
Advanced BIOS Features

This option defines advanced information about your system.

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                         Advanced BIOS Features
  ┌──────────────────────────────────────────────────────────────────────┐
  │  ▶ CPU Feature                      [Press Enter]  ▲                   │
  │  ▶ Hard Disk Boot Priority          [Press Enter]         Item Help    │
  │  ▶ CPU L3 Cache                     [Enabled]                          │
  │    Hyper-Threading Technology       [Enabled]       Menu Level   ▶     │
  │    Quick Power On Self Test         [Enabled]                          │
  │    First Boot Device                [Floppy]                           │
  │    Second Boot Device               [Hard Disk]                        │
  │    Third Boot Device                [CDROM]                            │
  │    Boot Other Device                [Enabled]                          │
  │    Swap Floppy Drive                [Disabled]                         │
  │    Boot Up Floppy Seek              [Disabled]                         │
  │    Boot Up NumLock Status           [On]                               │
  │    Gate A20 Option                  [Fast]                             │
  │    Typematic Rate Setting           [Disabled]                         │
  │  X Typematic Rate (Chars/Sec )      6                                  │
  │  X Typematic Delay (Msec)           250                                │
  │    Security Option                  [Setup]                            │
  │    ACPI Mode                        [Enabled]                          │
  │    OS Select For DRAM > 64MB        [Non-OS2]                          │
  │    HDD S.M.A.R.T. Capability        [Disabled]  ▼                      │
  └──────────────────────────────────────────────────────────────────────┘
  ↑↓→← : Move   Enter: Select   +/-/PU/PD:Value   F10:Save   ESC:Exit  F1: General Help
            F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults
```

▶ CPU Feature (Press Enter)

Users please note that this function is only available for Prescott CPUs. Scroll to this item and press <Enter> to view the following screen:

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                              CPU Feature
  ┌──────────────────────────────────────────────────────────────────────┐
  │    Delay Prior to thermal           [16 Min]             Item Help     │
  │    Thermal Management               [Thermal Monitor 1]                │
  │    TM2 Bus Ratio                    [0 X]                              │
  │    TM2 Bus VID                      [0.8375V]       Menu Level  ▶ ▶    │
  │    Limit CPUID MaxVal               [Disabled]                         │
  │    NX BIOS Control                  [Enabled]      Thermal Monitor 1 (On die │
  │                                                   throtting)           │
  │                                                                        │
  │                                                   Thermal Monitor 2 Ratio │
  │                                                   & VID transition     │
  │                                                                        │
  │                                                                        │
  │                                                                        │
  └──────────────────────────────────────────────────────────────────────┘
  ↑↓→← : Move   Enter: Select   +/-/PU/PD:Value   F10:Save   ESC:Exit  F1: General Help
            F5:Previous Values    F6"Fail-Safe Defaults    F7:Optimized
```

Delay Prior to Thermal (Thermal Monitor 1)

This item enables you to set the delay time before the CPU enters auto thermal mode.

Thermal Management (Thermal Monitor 1)

This item displays CPU's temperature and enables you to set a safe temperature to Prescott CPU.

Using BIOS

Limit CPUID MaxVal (Disabled)
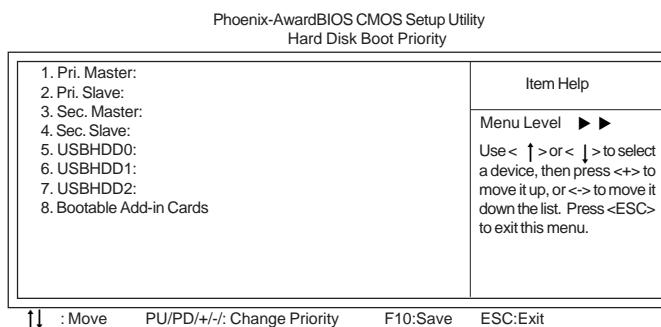
This item can support Prescott CPUs for old OS. Users please note that under NT 4.0, it must be set "Enabled", while under WinXP, it must be set "Disabled".

NX BIOS Control (Enabled)

Users please leave this item in its default setting under Windows XP OS. Change the value to "Disabled" if users are to install Linux OS.

▶ Hard Disk Boot Priority (Press Enter)

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

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                          Hard Disk Boot Priority
 ┌─────────────────────────────────────────┬──────────────────────────┐
 │  1. Pri. Master:                         │                          │
 │  2. Pri. Slave:                          │      Item Help           │
 │  3. Sec. Master:                         ├──────────────────────────┤
 │  4. Sec. Slave:                          │  Menu Level   ▶ ▶        │
 │  5. USBHDD0:                             │                          │
 │  6. USBHDD1:                             │  Use < ↑ > or < ↓ > to select │
 │  7. USBHDD2:                             │  a device, then press <+> to │
 │  8. Bootable Add-in Cards                │  move it up, or <-> to move it │
 │                                          │  down the list.  Press <ESC> │
 │                                          │  to exit this menu.      │
 │                                          │                          │
 └─────────────────────────────────────────┴──────────────────────────┘
  ↑↓ : Move    PU/PD/+/-/: Change Priority     F10:Save    ESC:Exit
```

CPU L3 Cache (Enabled)

All Prescott processors that can be installed in this mainboard use Level 3 (L3) cache memory to improve performance. Leave this item at the default value for better performance. This item is only available when you use L3 cache supported CPU.

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 system 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/CDROM)

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 for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Using BIOS

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 milliseconds 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 (Enabled)

This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

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)

This item determines whether the BIOS will report no FDD for Windows 95 OS.
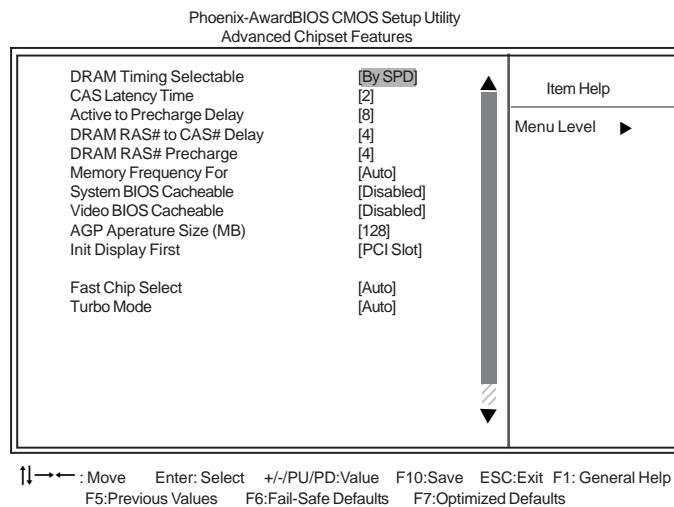
Small Logo (EPA) Show (Disabled)

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 familiar 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

DRAM Timing Selectable	[By SPD]	Item Help
CAS Latency Time	[2]	
Active to Precharge Delay	[8]	Menu Level ▶
DRAM RAS# to CAS# Delay	[4]	
DRAM RAS# Precharge	[4]	
Memory Frequency For	[Auto]	
System BIOS Cacheable	[Disabled]	
Video BIOS Cacheable	[Disabled]	
AGP Aperature Size (MB)	[128]	
Init Display First	[PCI Slot]	
Fast Chip Select	[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 (By SPD)

Enables you to select the CAS latency time in HCLKs of 2, 2.5, or 3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.

CAS Latency Time (2.5)

This item controls the timing delay (in clock cycles) before the DRAM starts a read command after receiving it.

Active to Precharge Delay (8)

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

DRAM RAS# to CAS# Delay (4)

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 (4)

Select the number of CPU clocks allocated forthe 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 (8)

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

Using BIOS

System BIOS Cacheable (Disabled)

When this item is enabled, the System BIOS will be cached for faster execution.

Video BIOS Cacheable (Disabled)

When this is enabled, the Video RAM will be cached resulting to better performance. However, if any program was written to this memory area, this may result to system error.

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 renge 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.
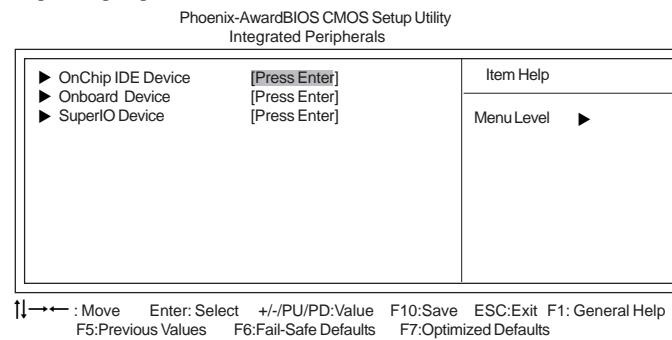
Turbo Mode (Auto)

This item allows you to increase the performance of CPU L2 cache timing at high speed.

Press <Esc> to return to the main Setup Utility screen.

Using BIOS
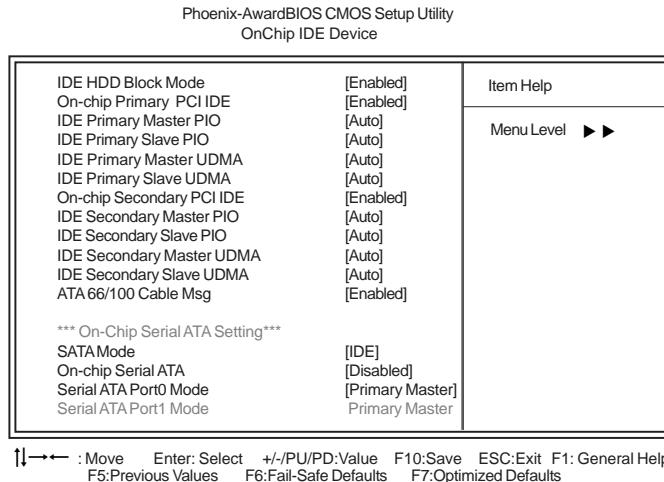
Integrated Peripherals

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
┌─────────────────────────────────────────────┬──────────────────────────┐
│  ▶ OnChip IDE Device      [Press Enter]       │   Item Help              │
│  ▶ Onboard Device         [Press Enter]       │                          │
│  ▶ SuperIO Device         [Press Enter]       │   Menu Level    ▶        │
│                                               │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
└─────────────────────────────────────────────┴──────────────────────────┘
  ↑↓→← : 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
┌─────────────────────────────────────────────┬──────────────────────────┐
│   IDE HDD Block Mode           [Enabled]      │   Item Help              │
│   On-chip Primary  PCI IDE     [Enabled]      │                          │
│   IDE Primary Master PIO       [Auto]         │   Menu Level   ▶ ▶       │
│   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]         │                          │
│   ATA 66/100 Cable Msg         [Enabled]      │                          │
│                                               │                          │
│   *** 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/write per sector the drive can support.

IDE Primary/Secondary Master/Slave PIO (Auto)

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

On-Chip Primary/Secondary PCI IDE (Enabled)

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

IDE Primary/Secondary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device. This mainboard 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 this mainboard in order to use an UltraDMA device.

ATA 66/100 Cable Msg (Enabled)

This item enalbes or disabled the display of the ATA 66/100 Cable Msg. If you install a device that supports UDMA, change the appropriate item on this list to Auto. You may have to install the UDMA driver supplied with this motherboard in order to use an UDMA device.

SATA Mode (IDE)

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

On-Chip Serial ATA (Disabled)

Enables or disables the built-in on-chip Serial ATA.
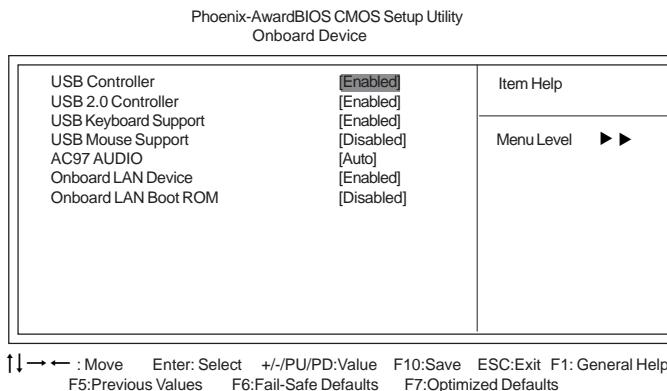
Serial ATA Port0/Port1 Mode (Primary Master)

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

Press <Esc> to return to the Integrated Peripherals screen.

▶Onboard Device

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

```
              Phoenix-AwardBIOS CMOS Setup Utility
                        Onboard Device

  ┌────────────────────────────────────────┬─────────────────────┐
  │  USB Controller              [Enabled]  │  Item Help          │
  │  USB 2.0 Controller          [Enabled]  │                     │
  │  USB Keyboard Support        [Enabled]  │                     │
  │  USB Mouse Support           [Disabled] │  Menu Level    ▶ ▶  │
  │  AC97 AUDIO                   [Auto]     │                     │
  │  Onboard LAN Device          [Enabled]  │                     │
  │  Onboard LAN Boot ROM        [Disabled] │                     │
  │                                         │                     │
  │                                         │                     │
  │                                         │                     │
  │                                         │                     │
  └────────────────────────────────────────┴─────────────────────┘
  ↑↓ → ←  : 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)

This item enables the USB controller. Leave this at the default "Enabled" if you want to connect USB devices to your computer.

USB 2.0 Controller (Enabled)

Enable this item if want to use the USB 2.0.

Using BIOS

USB Keyboard Support (Enabled)

This item allows the BIOS to interact with a USB keyboard or mouse to work with MS-DOS based utilities and non-Windows modes.

USB Mouse Support (Enabled)

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

AC97 AUDIO (Enabled)

This option allows you to control the onboard AC97 audio. Disable this item if you are going to install a PCI audio add-on card.

Onboard LAN Device (Enabled)

This option allows you to enable or disable the onboard LAN.
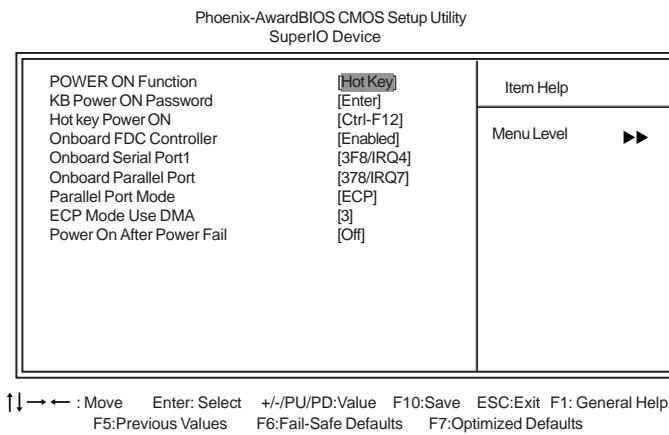
Onboard LAN Boot ROM (Disabled)

Use this item to enable and disable the booting from the onboard LAN or a network add-in card with a remote boot ROM installed.

Press <Esc> to return to the Integrated Peripherals screen.

▶SuperIO Device

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

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                                SuperIO Device

   ┌──────────────────────────────────────────────┬─────────────────────┐
   │  POWER ON Function          [Hot Key]         │   Item Help         │
   │  KB Power ON Password       [Enter]           │                     │
   │  Hot key Power ON           [Ctrl-F12]        ├─────────────────────┤
   │  Onboard FDC Controller     [Enabled]         │                     │
   │  Onboard Serial Port1       [3F8/IRQ4]        │   Menu Level    ▶▶  │
   │  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 passowrd.

Hot Key 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.

Using BIOS

Onboard FDC Controller (Enabled)

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field.

Onboard Serial Port1 (3F8/IRQ4)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port1 (COM1).

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 tp ECP mode, the parallel port can use DMA3 or DMA1.

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.

Press <Esc> to return to the Integrated Peripherals screen.
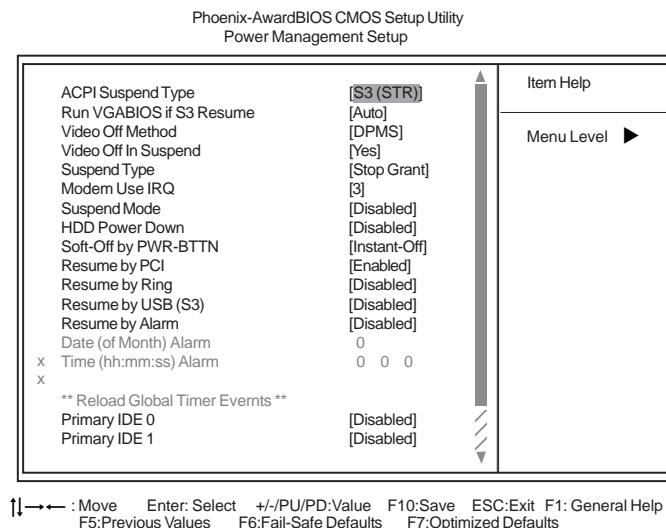
Power Management Setup

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

```
┌─────────────────────────────────────────────────────┬──────────────────┐
│  ACPI Suspend Type               [S3 (STR)]     ▲    │  Item Help       │
│  Run VGABIOS if S3 Resume        [Auto]              │                  │
│  Video Off Method                [DPMS]              │  Menu Level  ▶   │
│  Video Off In Suspend            [Yes]               │                  │
│  Suspend Type                    [Stop Grant]        │                  │
│  Modem Use IRQ                   [3]                 │                  │
│  Suspend Mode                    [Disabled]          │                  │
│  HDD Power Down                  [Disabled]          │                  │
│  Soft-Off by PWR-BTTN            [Instant-Off]       │                  │
│  Resume by PCI                   [Enabled]           │                  │
│  Resume by Ring                  [Disabled]          │                  │
│  Resume by USB (S3)              [Disabled]          │                  │
│  Resume by Alarm                 [Disabled]          │                  │
│  Date (of Month) Alarm            0                  │                  │
│ x Time (hh:mm:ss) Alarm          0  0  0            │                  │
│ x                                                    │                  │
│  ** Reload Global Timer Evernts **                   │                  │
│  Primary IDE 0                   [Disabled]          │                  │
│  Primary IDE 1                   [Disabled]     ▼    │                  │
└─────────────────────────────────────────────────────┴──────────────────┘
```

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

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 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 (S3(STR))

Use this item 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.

Using BIOS

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 (AUTO)

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 (Disabled)

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 Disabled.

HDD Power Down (Disabled)

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 PCI 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, and incoming call on the modem) awakens the system from a soft off state.

Resume by USB (S3)

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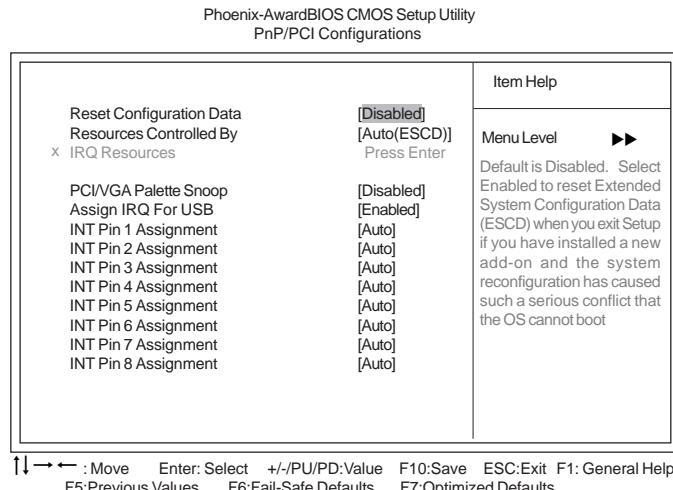
Resume by Alarm (S3)

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

Phoenix-AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

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

When you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS Setup is cleared from memory.

Resources Controlled By (Auto(ECSD))

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 submenu. 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.

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)

"Enable" or "Disable" this item when users are to assign IRQ for the USB interface onboard.

INT Pin1~8 Assignment (Auto)
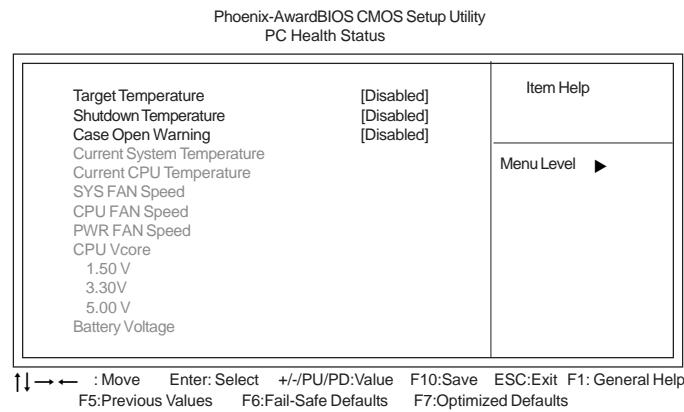
Identifies the interrupt request (IRQ) line assigned to a device connected to the PCI inter-face of your system.

Press <Esc> to return to the main Utility Setup screen.

Using BIOS

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

Target Temperature	[Disabled]	Item Help
Shutdown Temperature	[Disabled]	
Case Open Warning	[Disabled]	
Current System Temperature		Menu Level ▶
Current CPU Temperature		
SYS FAN Speed		
CPU FAN Speed		
PWR FAN Speed		
CPU Vcore		
1.50 V		
3.30V		
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 (Disabled)

This item enables throttling when CPU targets the temperature.

Shutdown Temperature (Disabled)

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

System Component Characteristics
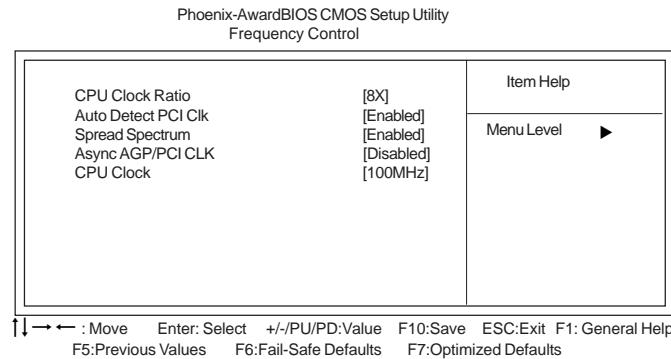
These items allow end users and technicians to monitor data provided by the BIOS on this motherboard. You cannot make changes to these fields.

- Current CPU/System Temperature
- CPU Fan Speed
- CPU Core Voltage
- Battery Voltage

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
┌─────────────────────────────────────────┬──────────────────────┐
│                                          │     Item Help        │
│   CPU Clock Ratio              [8X]       │                      │
│   Auto Detect PCI Clk          [Enabled]  ├──────────────────────┤
│   Spread Spectrum              [Enabled]  │  Menu Level      ►   │
│   Async AGP/PCI CLK            [Disabled] │                      │
│   CPU Clock                    [100MHz]   │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
└─────────────────────────────────────────┴──────────────────────┘
 ↑↓→← : 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 (8X)

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. (For unlock Ratio CPU only.)

Example:	*CPU Clock Ratio*	*8*
	CPU Frequency	*X100*
	Installed CPU Clock Speed	*800 MHz*

Spread Spectrum (Enabled)

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

Auto Detect DIMM/PCI Clk (Enabled)

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

Async AGP/PCI CLK (Disabled)

This item allows you to select the fixed clock to generate the output to AGP/PCI frequency.

CPU Clock (100MHz)

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

Using BIOS

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 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.

> *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.

Memo

Chapter 4
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.

> *Never try to install all software from folfer that is not specified for use with your motherboard.*

Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.
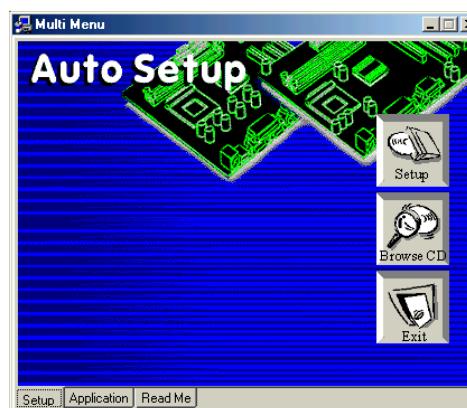
Auto-installing under Windows 98/ME/2000/XP

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

> *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 the 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.

> *If the opening screen does not appear; double-click the file "setup.exe" in the root directory.*

Using the Motherboard Software

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.
	In 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.
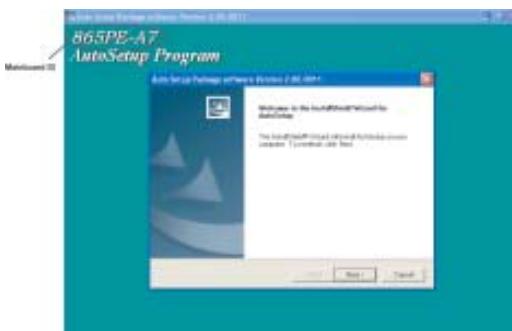
Read Me Tab

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:
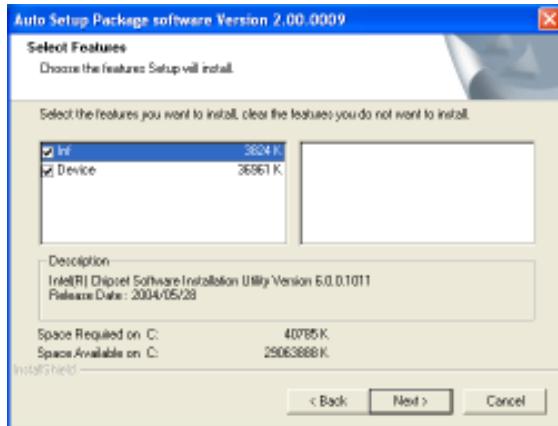
    The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

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

Using the Motherboard Software

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 onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Using the Motherboard Software

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.

> *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

The PC-CILLIN 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.

Caractéristiques

Processeur

865PE-A7 utilise un type de socket de 775 broches prenant en charge les processeurs LGA775 Pentium présentant les fonctionnalités suivantes:

- Reçoit des processeurs Intel P4 Prescott
- Support un bus système (FSB) de 800/533 MHz
- Supporte le CPU de technologie "Hyper-Threading"

La technologie "Hyper-Threading" permet au système d'exploitation de penser qu'il est connecté à deux processeurs, permettant d'exécuter deux threads en parallèle, à la fois sur des processeurs 'logiques' dans le même processeur physique.

Chipset

Le chipset 865PE Northbridge (NB) Chipset et ICH5 Southbridge (SB) se base sur une architecture innovante et évolutive avec des performances et une fiabilité éprouvées.

865PE (NB)
- Prend en charge l'interface Hub (HI) 1.5 avec la connexion point à point de 266 Mo/s vers ICH5
- Prend en charge AGP 3.0 avec transferts de données AGP 8X/4X et fast writes 8X/4X respectivement
- Prend en charge l'interface mémoire DDR à canal simple & canal double
- Prend en charge les modules DIMM DDR400/333/266
- Prend en charge jusqu'à quatre DIMM sans mémoire tampon avec une taille maximum de 4 Go

ICH5 (SB)
- Prend en charge jusqu'à cinq Maîtres PCI entièrement conformes aux spécifications PCI 2.3 à 33MHz.
- Prend en charge 2 Contrôleurs IDE de Maître Bus à canaux Ultra ATA 100
- Prend en charge deux Contrôleurs d'Hôte ATA Série
- Conforme à AC'97 v2.3 prenant en charge 6 Canaux de sorties audio
- Huit Ports USB 2.0 pour les transferts en série en 480Mb/Sec Max.

Mémoire

- Prend en charge le module mémoire DDR SDRAM 400/333/266 MHz
- Peut recevoir quatre SDRAM DDR DIMM sans mémoire tampon de 2,6 volts
- Jusqu'à 1 Go par DIMM avec une taille de mémoire maximum de 4 Go

Audio

- 865PE-A7 prend en charge le CODEC audio AC' 97 full-duplex stéréo 16 bits conforme aux spécifications AC' 97 v2.3
- Il est accompagné d'une vitesse d'échantillonnage indépendante et variable et d'une gestion d'alimentation avancée.

Multi-Language Translation

- Il incorpore la technologie de convertisseur propriétaire
- Le circuit de l'interface numérique fonctionne à partir d'une alimentation en 3.3V et prend en charge une fonction de sortie SPDIF conforme AC' 97 v2.3 permettant une connexion facile à partir du PC sur d'autres produits électroniques.
- Il prend en charge quatre entrées stéréo de niveau de ligne analogique

Options d'extension

La carte mère comporte les options d'extension suivantes :

- Un slot compatible AGP 3.0 avec vitesse 8X/4X(supporte la carte 1.5V AGP seulement)
- Cinq slots conforme PCI v2.2 32 bits
- Deux en-têtes demi-hauteur IDE de 40 broches supportant quatre canaux IDE
- Une interface de lecteur de disquette
- Deux connecteurs SATA à 7 broches

La 865PE-A7 ne carte mère prenant en charge la maîtrise de bus UltraDMA avec vitesses de transfert de 100/66 Mo/s.

LAN sur carte (optionnel)

Le contrôleur LAN interne offre les caractéristiques suivantes:
- Supporte le fonctionnement en Auto-négociation N-way en 100/10Mb/s
- Supporte le fonctionnement en half/full duplex
- Supporte la fonction Wake-On-LAN (WOL) -réveil par appel réseau et le réveil à distance

E/S intégrées

La carte mère comporte un ensemble complet de connecteurs et de ports E/S :
- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Quatre ports USB
- Un port LAN (optionnel)
- Prises audio pour microphone, ligne d'entrée et ligne de sortie

Microprogramme BIOS

Cette carte mère utilise Award BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les

- Gestion d'alimentation
- Alarmes de réveil
- Paramètres de CPU
- Synchronisation de CPU et de mémoire

Le micro-programme peut également être utilisé pour définir les paramètres pour différentes vitesses d'horloge de processeur.

Certaines spécifications matérielles et certains éléments logiciels sont susceptibles de modification sans préavis.

Multi-Language Translation

Funktionen

Prozessor

Das 865PE-A7 verwendet einen Sockel mit 775 Pins, der einen LGA775 Pentium 4 Prozessor unterstützt und die folgenden Merkmale besitzt:

- Nimmt Intel P4 Prescott Prozessoren auf
- Unterstützt einen Systembus (FSB) mit 800/533 MHz
- Unterstützt CPU mit "Hyper-Threading"-Technologie

"Hyper-Threading"-Technologie läßt das Betriebssystem glauben, es sei an zwei Prozessoren angeschlossen, was zwei parallele Threads auf separaten 'logischen' Prozessoren im selben physischen Prozessor erlaubt.

Chipsatz

Die 865PE Northbridge (NB) und ICH5 Southbridge (SB) basieren auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung.

865PE (NB)
- Unterstützt Hub-Schnittstelle (HI) 1.5 mit 266 MB/s Punkt-zu-Punkt Verbindung zu ICH5
- Unterstützt AGP 3.0 mit 8X/4X AGP Datenübertragung und 8X/4X schnelles Schreiben
- Unterstützt Single-Channel & Dual-Channel DDR Speicherschnittstellen
- Unterstützt DDR400/333/266 DIMM Module
- Unterstützt bis zu 4 ungepufferte DIMMs für bis zu 4 GB Systemspeicher.

ICH5 (SB)
- Unterstützt bis zu fünf PCI Steckplätze, die der PCI 2.3 Spezifikation mit 33 MHz entsprechen.
- Unterstützt 2 Känale Ultra ATA 100 Bus Master IDE-Controller
- Unterstützt zwei Serielle ATA Host Controller
- Entspricht AC'97 v2.3 und unterstützt 6 Kanal Audioausgänge
- Acht USB 2.0 Ports für seriellen Datentransfer mit max. 480 Mb/Sek.

Speicher

- Unterstützt DDR400/333/266 MHz DDR SDRAM Speichermodule
- Nimmt vier ungepufferte DIMMs mit 2,6 Volt DDR SDRAM auf
- Bis zu 1 GB pro DIMM mit einer maximalen Speichergröße von bis zu 4 GB

Audio

- 865PE-A7 unterstützt 16-Bit Stereo Vollduplex AC'97 Audio CODEC der der AC'97 v2.3 Spezifikation entspricht
- Es besitzt eine unabhängige und veränderbare Sampling Rate und Advanced Power Management

- Es enthält eine patentierte Konvertiertechnologie
- Der digitale Schnittstellenschaltkreis arbeitet mit 3.3V Netzteilen und unterstützt AC'97 v2.3 entsprechend SPDIF Ausgangsfunktionen und ermöglicht den einfachen Anschluss des PCs an andere elektronische Geräte.
- Es unterstützt vier analoge Line-Level Stereoeingänge

Erweiterungs-optionen

La carte mère comporte les options d'extension suivantes :

- Einen AGP 3.0 Steckplatz, gemäß Sockel mit 8x/4x Geschwindigkeit (unterstützt nur 1.5V AGP Interface)
- Fünf 32-bit PCI-Steckplätze
- Zwei 40-Pin IDE low profile-Stecker, die vier IDE-Kanäle unterstützen
- Eine Schnittstelle für ein Floppydiskettenlaufwerk
- Zwei 7-Pin SATA Anschlüsse

Die 865PE-A7-Motherboard unterstützt UltraDMA Bus Mastering mit einer Übertragungsrate von 100/66 MB/Sek.

Onboard LAN (Optional)

Das Onboard-LAN hat folgende Funktionen:
- Unterstützt 100/10Mb/Sek N-way Auto-negotiation Betrieb
- Unterstützt half/full duplex Betrieb
- Unterstützt Wake-On-LAN (WOL) Funktion und Remote Wake-up

Integrierte I/O

Das Motherboard verfügt über einen kompletten Satz von I/O- Schnittstellen und Anschlüssen:
- Zwei PS/2-Ports für Maus und Tastatur
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Vier USB-Schnittstellen
- Eine LAN-Schnittstelle (optional)
- Audiobuchsen für Mikrofon, Line-in und Line-out

BIOS-Firmware

Das Motherboard verwendet Award BIOS, das es Benutzern gestattet, viele Systemfunktionen inkl. der Folgenden zu konfigurieren:

- Energieverwaltung
- Aufweckfunktionen
- CPU-Parameter
- CPU- und Arbeitsspeicherfrequenz

Die Firmware kann auch zur Einstellung von Parametern für verschiedene Prozessortaktgeschwindigkeiten verwendet werden.

Manche Hardwarespezifikationen und Softwareelemente können ohne Ankündigung geändert werden.

Multi-Language Translation

Caratteristiche

Processore

865PE-A7 utilizza un tipo di presa a 775 pin per il supporto di processori Pentium 4 LGA775 che offre le seguenti caratteristiche :

- Alloggia processori Intel P4 Prescott
- Supporta un bus di sistema (FSB) fino a 800/533 Mhz
- Supporta CPU con tecnologia "Hyper-Threading"

La tecnologia "Hyper-Threading" induce il sistema operativo a pensare di essere collegato a due processori, questo permette di eseguire due thread in parallelo, ambedue su processori "logicamente" separati all'interno dello stesso processore.

Chipset

I chipset 865PE Northbridge (NB) e ICH5 Southbridge (SB) sono basati su una architettura innovativa e scalabile dalle prestazioni e affidabilità garantite.

865PE (NB)
- Supporto di Hub Interface (HI) 1.5 con collegamento point to point a 266 MB/s a ICH5
- Supporto di AGP 3.0 con trasferimento di dati AGP a 8x/4x e scrittura rapida a 8x/4x
- Supporto di interfaccia memoria DDR Single Channel e Dual Channel
- Supporto di moduli DIMM con DDR 400/333/266
- Supporto di fino a 4 DIMM senza buffer con una capacita massima di memoria

ICH5 (SB)
- Supporto di fino a cinque master PCI a 33 MHz pienamente compatibili con la specifica PCI 2.3
- Supporto di controller IDE Bus Master Ultra ATA 100 a 2 canali
- Supporto di due controller host Serial ATA
- Conforme alla specifica AC'97 v2.3 con supporto di 6 canali audio in uscita
- Otto porte USB 2.0 per trasferimenti seriali a velocità di 480Mb/sec Max

Memoria

- Supporto di moduli memoria SDRAM con DDR a 400/333/266 MHz
- Compatibile con quattro DIMM senza buffer di DDR SDRAM a 2,6 volt
- Fino a 1 GB per ciascun DIMM con una capacità massima di memoria di 4 GB

Audio

- 865PE-A7 supporta il CODEC audio AC'97 full duplex stereo a 16 bit conforme alla specifica AC'97 v2.3
- È dotato di velocità di campionamento indipendente e variabile e di avanzate funzionalità di gestione dell'alimentazione

Multi-Language Translation

- Include un'esclusiva tecnologia di conversione
- Il circuito elettrico dell'interfaccia digitale è alimentato a 3.3 volt e supporta una funzione uscita SPDIF conforme alla specifica AC'97 v2.3 che agevola il collegamento del computer ad altre apparecchiature elettroniche
- Supporta quattro ingressi analogici stereo lineari

Opzioni di espansione

La carte mère comporte les options d'extension suivantes :

- Uno slot AGP 3.0 8X/4X(supporta solo l'interfaccia 1.5V AGP)
- Cinque slot PCI v2.3 a 32 bit
- Due connettori IDE a 40 pin che supportano quattro canali IDE
- Una interfaccia floppy disk
- Due connettori SATA a 7 pin.

La scheda 865PE-A7supporta il bus mastering Ultra DMA con transfer rate 100/66 MB/sec.

LAN Onboard (opzionale)

Il controller LAN installato dispone delle seguenti caratteristiche:
- Supporta operazioni di auto-negoziazione N-way a 100/10Mb/s
- Supporto operazioni half/full duplex
- Supporto funzione WOL (Wake on Lan) e wake up remoto

I/O integrato

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
- Quattro porte USB
- Una porta LAN (opzionale)
- Jack audio per microfono, linea d'ingresso e linea d'uscita

Firmware BIOS

Questa scheda madre adotto un BIOS Award che permette agli utenti di configurare le caratteristiche principali del sistema, inclusi:
- Gestione energia
- Allarmi wake up
- Parametri CPU
- Temporizzazione CPU e memoria

Il firmware può anche essere usato per impostare i parametri per diverse velocità di clock.

Alcune specifiche hardware e software potrebbero essere soggette a cambiamenti senza preavviso.

Características

Procesador

La 865PE-A7 usa un tipo de zócalo de 775 pins que soporta procesadores LGA775
Pentium 4 que lleva las sigtes. características:

- Acomoda procesadores Intel P4 Prescott
- Soporta un sistema de bus (FSB) de 800/533 MHz
- Soporta CPU de tecnología "Hyper-Threading"

La tecnología "Hyper-Threading" habilita el sistema operativo para que piense como si
estuviera conectado a dos procesadores, que permite dos hilos a correr en paralelo, ambos
en procesadores "lógicos" dentro del mismo procesador físico.

Chipset

Los chipsets Northbridge 865PE (NB) y Southbridge ICH5(SB) están basados en una arqui-
tectura innovadora y escalable con fiabilidad y rendimiento comprobados.

865PE (NB)
- Soporta la Interfaz Hub (HI) 1.5 con conexión punto a punto de 266 MB/s a ICH5
- Soporta AGP 3.0 con transferencias de datos 8X/4X AGP y escrituras rápidas 8X/4X respectivamente
- Soporta interfaz de memoria DDR de Single-channel & Dual-channel (Canal Singular & Canal Dual)
- Soporta módulos DIMM de DDR400/333/266
- Soporta hasta cuatro DIMM sin buffer con un tamaño de memoria máxima de 4 GB.

ICH5 (SB)
- Soporta hasta cinco PCI Masters completamente conforme con la especificación PCI 2.3 en 33 MHz
- Soporta controladores IDE de máster bus de Ultra ATA 100 de 2 canales
- Soporta dos Controladores Anfitriones ATA Serial
- Conforme con AC'97 v2.3 que soporta 6 Canales de salidas de sonido
- Ocho Puertos USB 2.0 para transferencias seriales en 480Mb/seg Máx

Memoria

- Soporta módulo de memoria DDR SDRAM de DDR400/333/266 MHz
- Acomoda cuatro DIMM sin buffer de 2.6 volt DDR SDRAM
- Hasta 1 GB por DIMM con tamaño de memoria máxima hasta 4 GB

Sonido

- 865PE-A7 soporta AC'97 audio CODEC full-duplex estéreo de 16-bit con la especificación AC'97 v2.3
- Viene con un índice de muestreo independiente y variable y administración de suministro avanzado

- Está incorporado con la tecnología de conversor propietaria
- El circuito de interfaz digital opera de un suministro de alimentación 3.3V y soporta un función de salida conforme con SPDIF de AC'97 v2.3 que permite una conexión fácil del ordenador a otros productos electrónicos
- Soporta cuatro entradas de estéreo a nivel de línea analógico

Opciones de Expansión

La placa principla viene con las sigtes. opciones de expansión:
- Una ranura conforme con AGP 3.0 con la velocidad 8X/4X (soporta interfaz 1.5V AGP solamente)
- Cinco ranuras conforme con 32-bit PCI v2.3
- Dos cabezales de perfil bajo 40-pin IDE que soporta cuatro canales IDE
- Una interfaz de lector de floppy
- Dos conectores 7-pin SATA

La 865PE-A7 soporta mastering de bus Ultra DMA con índices de transferencia de 100/66 MB/s.

LAN abordo(optativo)

El LAN abordo provee las sigtes. características:
- Soporta la operación de auto-negociación de 100/10 Mb/s N-way
- Soporta la operación half/full duplex
- Soporta la función Wake-On-LAN (WOL) y despertar remoto

I/O Integrado

La placa principal tiene un juego completo de puertos y conectores
- Dos puertos PS/2 para ratón y teclado
- Un puerto seriales
- Un puerto paralelo
- Cuatro puertos USB
- Un puerto LAN (optativo)
- Clavijas de sonido para micrófono, entrada y salida de línea

BIOS Firmware

La placa principal usa Award BIOS que habilita a los usuarios para que configuren muchas características del sistema incluyendo las siguientes:
- Administración de alimentación
- Alarmas despertadores
- Parámetros de CPU
- Cronometraje de CPU y de memoria

También se puede usar el firmware para configurar los parámetros para diferentes velocidades de reloj del procesador.

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

Características

Procesador

O 865PE-A7 usa um tipo de tomada de parede de cavilhas 775 suportando processadores Pentium 4 LGA775 que possui as seguintes características:

- Acomoda processadores Intel P4 Prescott
- Suporta um bus sistema (FSB) de 800/533 MHz
- Suporta CPU de tecnologia "Hyper-Threading"

A tecnologia "Hyper-Threading" permite que o sistema operativo "pense" que está ligado a dois processadores, permitindo que sejam executados dois threads em paralelo, ambos em processadores "lógicos" separados dentro do mesmo processador físico.

Chipset

O 865PE Northbridge (NB) e o ICH5 Southbridge (SB) baseia-se numa inovadora arquitectura escalável, com confiança e desempenho comprovados.

865PE (NB)
- Suporta um Interface Hub (HI) 1.5 com ligação ponto a ponto de 266 MB/s ao ICH5
- Suporta AGP 3.0 com transferências de dados de 8X/4X AGP e escritas rápidas 8X/4X respectivamente
- Suporta interface de memória DDR Bicanal & Monocanal
- Suporta módulos DDR400/333/266 DIMM
- Suporta até quatro DIMMs sem buffers com capacidade máxima de memória de 4 GB

ICH5 (SB)
- Suporta até cinco PCI Masters que cumprem totalmente com a especificação PCI 2.3 a 33 MHz
- Suporta controladores IDE master bus 100 ATA Ultra com 2 canais
- Suporta dois Controladores Host ATA de Série
- Cumpre com a especificação AC'97 v2.3 suportando 6 Canais de saídas áudio
- Suporta oito portas USB 2.0 para transferências de série a um máximo de 480Mb/s

Memoria

- Suporta módulo de memória DDR400/333/266 MHz DDR SDRAM
- Acomoda quatro DIMMs sem buffers de 2.6 volts DDR SDRAM
- Até 1 GB por DIMM com capacidade máxima de memória até 4 GB

Áudio

- O 865PE-A7 suporta um CODEC áudio AC'97 full-duplex estéreo 16-bit que cumpre a especificação AC'97 v2.3
- Vem fornecido com taxa de amostragem variável e independente e gestão avançada da corrente

Multi-Language Translation

- Vem incorporado com tecnologia de conversor de uso privado
- O circuito de interface digital opera a partir de uma fonte de alimentação de 3.3V e suporta uma função de saída SPDIF que cumpre com a especificação AC'97 v2.3 que permite uma ligação fácil a partir do PC a outros produtos electrónicos
- Suporta quatro entradas estéreo de nível de linha e analógicas

Opções de Expansão

A placa principal vem equipada com as seguintes opções de expansão:
- Uma ranhura compatível com AGP 3.0 com uma velocidade de 8X/4X (suporta apenas 1.5V AGP)
- Cinco ranhuras compatíveis com PCI v2.3 de 32 bits
- Dois cabeçalhos de baixo perfil IDE 40 pinos, que suportam quatro dispositivos IDE
- Uma interface da unidade de disquete
- Dois conectores SATA de 7 pinos

A placa principal 865PE-A7 suporta o mastering do bus Ultra DMA, com velocidades de transferência de 100/66 MB/s.

LAN incorporada (Opcional)

A LAN incorporada oferece as seguintes características:
- Suporta o funcionamento de negociação automática de 100/10 Mb/s N-direcções
- Suporta o funcionamento meio/completo duplex
- Suporta a função Wake-On-LAN(WOL) e despertar remoto

E/S integrado

A placa principal conta com um conjunto completo de portas e conectores E/S:
- Duas portas PS/2 para o rato e o teclado
- Uma porta de série
- Uma porta paralela
- Quatro portas USB
- Uma porta LAN (opcional)
- Tomadas de áudio para microfone, linha de entrada e linha de saída

BIOS Firmware

Esta placa principal utiliza a Award BIOS que permite aos utilizadores configurarem muitas funções do sistema, incluindo as seguintes:
- Gestão de energia
- Alarmes de despertar
- Parâmetros da UCP
- Temporização da UCP e da memória

O firmware também pode ser utilizado para definir parâmetros para diferentes velocidades do relógio do processador

Algumas especificações de hardware e itens de software estão sujeitos a alteração sem aviso prévio.

仕様

プロセッサ

865PE-A7は、LGA775 Pentium 4プロセッサに対応の775 ピン仕様のソケットを一つ搭載
しております。そのソケットの特徴は次の通りです：

* Intel P4 Prescott プロセッサに対応
* 800/533 MHzのシステムバス(FSB)をサポート
* "ハイパースレッド"技術をサポート

ハイパースレッド（HT）技術というのは、オペレーションシステムに2つのプロセッサが存在すると認
識させることで、実際には2つのスレッドを1つのプロセッサで同時に執行させ、平行利用を可能とす
る技術です。

チップセット

搭載した865PE Northbridgeおよび ICH5 Southbridgeチップセットは最新且つ拡張性ある
アーキテクチャを採用し、高い安定性およびパフォーマンスを兼ね備えたものです。

865PE (NB)
* ICH5に266MB／秒のポイント対ポイントの接続を可能にする
  HI（Hub Interface）1.5 に対応
* 8X/4X のAGPデータ転送と8X/4X の高速書き込みとの機能
  を持つ AGP 3.0 に対応
* シングルチャネルとデュアルチャネルとのDDR メモリインター
  フェースに対応
* DDR400/333/266 DIMMモジュールに対応
* 4つの非バッファーDIMMで最大4 GB までのメモリの取り付け
  を可能

ICH5 (SB)
* 5つのPCI Masterに対応、33MHZではPCI 2.3 規格に完全準
  拠
* 2 チャネルのUltra ATA 100 バスマスタ IDE コントローラをサ
  ポート
* 2つのシリアル ATA ホストコントローラをサポート
* 6つチャネルのオーディオ出力をサポートするAC'97 v2.3に準
  拠
* 最大480Mb/秒のシリアル転送率可能の8つのUSB2.0ポート

メモリ=
* DDR400/333/266 MHz DDR SDRAMのメモリモジュールをサポート
* 2.6V仕様のDDR SDRAMの非バッファーDIMMを4つ搭載
* 各DIMMに1 GB のメモリを、合計で4 GBを装着可能

オーディオ
* 865PE-A7は、AC'97 v2.3 規格に準拠する16ビットステレオ全二重AC'97 オー
  ディオCODEC を対応
* 独立かつ可変のサンプリング率と高度な電源管理機能を採用

- 独自な変換技術を導入
- デジタルインターフェース回路は3.3V 仕様であって、1つの AC'97 v2.3 準拠の SPDIF 出力をサポートしていますので、ご使用のコンピュータを他の電子設備に接続することが簡単
- 4つのアナログラインレベルのステレオ入力をサポート

拡張オプション

このメインボードには次の拡張オプションがあります:

- 8X/4Xモード対応のAGP3.0仕様スロット(1.5VAGPインターフェースのみに対応)が1つ。
- 32ビットPCIスロットが5つ
- 40ピンIDEローブロフィルヘッダー(4つのIDEチャネルをサポート)が2つ
- フロッピーディスクインターフェースが1つ
- 7ピンSATAコネクタが2つ

865PE-A7は、100/66 MB/秒の転送レートでUltra DMAバスマスタリングに対応します。

オンボードLAN (オプション)

オンボードLAN機能には、次の機能をサポートします。

- 100/10 Mb/秒 のNウェイ自動認識機能動作をサポート
- 半/全二重動作
- Wake-On-LAN (WOL) 機能とリモートwake-up機能

統合の入出力ポート

このメインボードはフルセットのI/Oポートおよびコネクタを搭載しています。それらは次の通りです：

- マウスとキーボード用のPS/2ポートが2つ
- シリアルポートが1つ
- パラレルポート が1つ
- USBポート が4つ
- LANポート が1つ (オプション)
- マイクロフォンやラインイン、ラインアウト用のオーディオジャック

BIOSファームウェア

本メインボードは次ぎのシステム機能を含めた設定をすることができるAward BIOSを採用しています：

- 電源管理
- Wake-up警告
- CPU パラメータ
- CPU およびメモリのタイミング

その他に、各種プロセッサクロック速度のパラメータを設定することができます。

> 一部のハードウェア仕様及びソフトウェアアイテムは予告なく変更されることがあります。

기능

프로세서

865PE-A7 은LGA775 팬티엄 4 프로세서를 지원하는 775 핀 소켓 타입을 사용하며 다음과 같은 특성을 지닌다:

- Intel P4 Prescott프로세서 사용
- 800/533 MHz시스템 버스(FSB) 지원
- ” Hyper-Threading ” 기술 CPU 지원

” Hyper-Threading”기술은 운영체제를 두 개의 프로세서에 연결한 것처럼 두개의 트래드를 패러럴로 실행하여 같은 물리적 프로세서 안에서 각기 다른 “논리적” 프로세서를 실행할 수 있게 한다.

칩셋

865PE Northbridge (NB) 와 ICH5 Southbridge (SB) 칩셋은혁신적이고 범위성을 지닌 아키텍쳐를 바탕으로 인정된 신뢰성과 성능을 지닌다.

865PE (NB)
- ICH5 에 266 MB/s 포인트 투 포인트 커넥션을 지원하는 허브 인터페이스 (HI) 1.5 지원
- 8X/4X AGP 데이터 전송 및 8X/4X 패스트 라이트를 지원하는 AGP 3.0 지원
- 싱글 채널 및 듀얼 채널 DDR 메모리 인터페이스 지원
- DDR400/333/266 DIMM 모듈 지원
- 최대 4 개의 unbuffered DIMM 지원. 최대 메모리 용량 4 GB.

ICH5 (SB)
- 33 MHz 에서 PCI 2.3 사양에 전적으로 부합하는 PCI 마스터 최대 5 개 지원
- 2 채널 Ultra ATA 100 버스 마스터 IDE 컨트롤러 지원
- 2 개의 시리얼 ATA 호스트 컨트롤러 지원
- 오디오 출력 6 채널을 지원하는 AC’97 v2.3 부합
- 480Mb/sec 의 시리얼 전송을 위한 8 개의 USB 2.0 포트

메모리

- DDR400/333/266 MHz DDR SDRAM 메모리 모듈 지원
- 4 개의 unbuffered DIMM of 2.6 볼트 DDR SDRAM 사용
- DIMM 당 최대 1 GB, 최대 메모리 크기 4 GB

오디오

- 865PE-A7 는 AC’97 v2.3 사양에 부합하는 16 비트 스테레오 풀-듀플렉스 AC’97 오디오 코덱을 지원한다.
- 독립적이고 다양한 샘플링 속도와 고급 전원 관리 기능을 지닌다.

Multi-Language Translation

- 적당한 전환 기술을 사용한다.
- 디지털 인터페이스 회로는 3.3V 파워 써플라이로 작동되며 AC'97 v2.3 부합 SPDIF out 기능을 지원하여 PC 의 다른 전자 제품에의 연결이 용이하게 한다.
- 4 개의 라인 레벨 스테레오 입력을 지원한다.

확장 옵션

이 메인보드는 다음과 같은 확장 옵션이 있다
- 8X/4X 속도의 AGP 3.0 호환 슬롯 1개(1.5V AGP 인터페이스만 지원)
- 32 비트 PCI v2.3 호환 슬롯 5 개
- 4 개의 IDE 채널을 지원하는 40 핀 IDE 로우 프로파일 해더 2 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 2 개

865PE-A7마더보드는 전송 속도 100/66 MB/s 의 Ultra DMA bus mastering 을 지원한다

보드 내장 LAN (선택 사항)

보드 내장 LAN 은 다음과 같은 기능을 제공한다
- 100/10 Mb/s 자동 조정 오퍼레이션 지원
- half/full duplex 오퍼레이션 지원
- Wake-On-LAN (WOL) 기능 및 원격 wake-up 지원

통합 I/O

이 메인보드에는 풀 세트의 I/O 포트와 커넥터가 있다

- 마우스와 키보드용 PS/2 포트 2 개
- 시리얼 포트 1개
- 패러럴 포트 1 개
- USB 포트 4개
- LAN 포트 1 개 (선택 사항)
- 마이크용 오디 오 잭, line-in 과 line-out

BIOS 펌웨어

본 메인보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을
- 전원 관리
- Wake-up 알람
- CPU 파라미터
- CPU 및 메모리 타이밍
펌웨어는 다른 프로세서의 클럭 속도를 설정하는 데도 사용될 수 있다

하드웨어 사양 및 소프트웨어 아이템은 사전 통보없이 변경될 수 있습니다

規格

處理器

865PE-A7 使用一個支援LGA775 Pentium 4 處理器的775 針規格插座，具有如下功能：

- 支援Intel P4 Prescott處理器
- 支援高達800/533 MHz之系統匯流排(FSB)
- 支援使用"超執行緒(Hyper-Threading)"技術之CPU

利用"超執行緒(HT)"技術，可使作業系統在相當於裝上了兩具處理器的狀態下運作：利用一個"實體"處理器模擬出兩個獨立的"邏輯"處理器，同時執行兩個工作緒。

晶片組

865PE北橋(NB)及ICH5(SB)南橋晶片組，採用了獨創且具有擴充功能的架構，能夠發揮最佳的穩定性及功能。

865PE (NB)
- 支援Hub Interface (HI) 1.5，提供對ICH5高達266 MB/秒的點對點連接
- 支援 具有8X/4X AGP 資料傳輸及8X/4X 快寫功能的AGP 3.0
- 支援單一通道及雙通道 DDR記憶體介面
- 支援DDR400/333/266 DIMM 模組
- 支援高達4個非緩衝DIMM ，最多可安裝4 GB的記憶體

ICH5 (SB)
- 支援高達5個的PCI 主控擴充槽，完全相容於33MHz的 PCI 2.3 規格
- 支援2 通道的Ultra ATA 100 匯流排主IDE 控制器
- 支援2個Serial ATA主控器
- 相容於AC'97 v2.3，可支援6聲道之音訊輸出
- 8個 USB 埠，提供高達480 Mb/秒之串列傳輸速度。

記憶體

- 支援DDR400/333/266 MHz DDR SDRAM記憶體模組
- 配備4個非緩衝DIMM，供2.6伏特規格之 DDR SDRAM安裝
- 每一DIMM支援1 GB，共可安裝4GB的記憶體

音效

- 865PE-A7支援16位元立體聲全雙工AC'97音訊CODEC，相容於AC'97 v2.3 規格
- 具有獨立且可變之採樣頻率，並採用先進電源管理功能

繁體中文

- 採用獨創的轉碼技術
- 數位介面電路採用3.3V 電源，支援AC'97 v2.3相容的SPDIF輸出功能，藉此可輕易地將個人電腦接上其他的電子產品
- 支援4個類比線級立體聲輸入

擴充選項

主機板機載有下列擴充選項功能：
- 1個支援8X/4X 模式的AGP 3.0相容插槽(僅支援1.5伏特電壓規格介面)
- 5個32位元PCI插槽
- 2個40針IDE低通接頭(支援4個IDE通路)
- 1個軟體機介面
- 2個7針SATA插頭

865PE-A7也支援Ultra DMA 匯流排主控功能，可提供100/66 MB/sec之傳輸速率。

機載LAN(選購)

機載 LAN功能具有如下功能：
- 支援 100/10 Mb/秒N向自動辨識連線功能
- 支援半/全雙工
- 支援Wake-On-LAN (WOL)功能及遠端wake-up功能

整合的輸入出功能

本主機板完整地支援各種輸出入及連接器：

- 2個PS/2埠，分供滑鼠及鍵盤連接
- 1個串列埠
- 1個平行埠
- 4個USB埠
- 1個LAN埠(選購)
- 麥克風、線級輸入(line-in)及線級輸出(line-out)音效端子

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
- 喚醒警示
- CPU參數
- CPU及記憶體的定時

本BIOS也可用以設定各種有關處理器頻率的參數

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。

功能

处理器

865PE-A7 使用一个支持 LGA775 Pentium 4 处理器的 775 pin 插座，具有以下特点：

- 支持 Intel P4 Prescott 处理器
- 支持 800/533 MHz 系统总线 (FSB)
- 支持"多线程"技术 CPU

"多线程"技术可以让操作系统认为自己连接了两个处理器，允许两个线程并行运行，每个线程位于同一处理器中的单独"逻辑"处理器中。

芯片组

865PE北桥 (NB) 和 ICH5 南桥 (SB) 芯片组是基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。

865PE (NB)
- 支持 266 MB/s 点对点连接到 ICH5 的 Hub 接口 (HI)
- 支持带 8X/4X AGP 数据传输和 8X/4X 快写功能的 AGP 3.0
- 支持单通道及双通道 DDR 存储接口
- 支持 DDR400/333/266 DIMM 内存模块
- 支持 4 个非缓冲 DIMM 内存条，最大内存可达 4 GB

ICH5 (SB)
- 支持 5 个 PCI 主控器，完全符合 PCI 2.3 规格（33 MHz）
- 支持 2 通道 Ultra ATA 100 总线主控 IDE 控制器
- 支持 2 个串行 ATA 主控器
- 符合 AC'97 v2.3 规格，支持 6 声道音频输出
- 8 个用于串行传输的 USB 2.0 端口，最大传输速率可到 480Mb/Sec

内存
- 支持 DDR400/333/266 MHz DDR SDRAM 内存模块
- 支持 4 个非缓冲 2.6 V DDR SDRAM DIMM 内存条
- 每个 DIMM 最大支持 1 GB，总共可支持 4 GB

音频
- 865PE-A7 支持 16 位立体声全双工 AC'97 编解码器，符合 AC'97 v2.3 规格
- 具有可调独立采样速率和高级电源管理功能

- 与专有的转换器技术相结合
- 数字接口电路可以在 3.3V 电源下工作，并支持符合 AC'97 v2.3 规格的 SPDIF 输出功能，此功能可以方便的将 PC 与其它电子产品连接在一起。
- 支持 4 路模拟线路级立体声输入

扩展选项

此主板提供如下扩展选项：
- 1 个 8X/4X AGP 3.0 插槽(只支持 1.5V AGP 接口)
- 5 个 32 位 PCI v2.3 扩展槽
- 2 个 40-pin IDE 紧凑型接口，支持 4 个 IDE 通道
- 1 个软驱接口
- 2 个 7-pin SATA 接口

主板865PE-A7支持 Ultra DMA 总线控制，传输速率可达 100/66 MB/sec。

Onboard LAN (可选)

机载 LAN功能具有如下功能：
- 支持 100/10Mb/s N 路自协商工作
- 支持半双工/全双工工作
- 支持 LAN 唤醒 (WOL) 功能和远程唤醒功能

集成 I/O

此主板具有完整的 I/O 端口和插孔：

- 2 个用于连接鼠标和键盘的 PS/2 端口
- 2 个串口
- 1 个并口
- 4 个 USB 端口
- 1 个 LAN 端口（可选）
- 麦克风、线入和线出声音插孔

BIOS

此主板使用 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 和记忆的定时

还可用于设置不同处理器时钟速度的参数。

某些硬件规格和软件项目若有更改恕不另行通知。

简体中文