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.

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No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
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**

Essen, 04.03.2004

RWTÜV

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

CERTIFICATION

ISO14001 CERTIFICATE

Certificate No.: 061-04-E1-0065-R1-L

We hereby certify that

ECS MANUFACTURING (SHANZHEN) 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:

ECS MANUFACTURING (SHANZHEN) CO., LTD. located at No. 20 & 26 (except 1F, 2F), Free Trade Zone, Shatoujiao, Shenzhen City, Guangdong Province, P. R. China. is engaged in manufacturing of Mother Board and Peripheral Card, and interrelated managerial activities.

Date of issue: 28th Sept. 2004
Date of expiry: 27th Sept. 2007
Signed by:

CNAB

SHENZHEN SOUTHERN CERTIFICATION CO., LTD.

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1.1 Introduction

Thank you for choosing the PA1 MVP Lite motherboard.

The PA1 MVP Lite is the next generation of high performance motherboard designed to support the LGA775 socket Intel Pentiun4/Pentium D Processors. This motherboard has an ATX form factor that uses a 4-layer printed circuit board and measures 305 mm x 244 mm.

The PA1 MVP Lite motherboard is based on the ATI RD400X Northbridge and SB450 Southbridge chipsets to set a new benchmark for the best desktop platform solution. Supporting up to 4 GB of system memory with DDR2 400/533/667 DDR DIMMs, high resolution graphics via PCI Express ports, 10/100 LAN, USB 2.0, 8-channel audio, Digital S/PDIF in/out, SATA support and RAID function.

This motherboard complies to ATI's unique CrossFire™ technology, a parallel processing technology propelling your PC to a new pinnacle of performance with the ultimate multi-GPU consumer graphics solution. Supporting a wide range of ATI-based graphics cards and motherboards, the CrossFire platform offers flexibity and compatibility with all of today's Radeon X800® or Radeon X850® graphics cards.

1.2 Package Check List

Motherboard

User's Guide

Installation CD

SATA Power Cable

SATA Cables

I/O Shield

HDD, CD-ROM, and FDD Cables

Shunt Card

USB Bracket & housing

*Accessories are subject to change with prior notice.

1.3 Feature Summary

CPU	• LGA775 Socket for Intel Pentium4/Pentium D processor • Supports up to 1066MHz FSB • Supports Hyper-Threading Technology
Chipset	• ATI RD400X & SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Memory	• Dual-channel DDR2 memory architecture • 4 x 240-pin DDR2 DIMM socket support up to 4 GB • Supports DDR2 400/533/667 • Non-ECC, unbuffered 1.8V DDR2 DIMMs
Expansion Slots	• 2 x PCI Express x16 slots • 2 x PCI Express x1 slots • 2 x PCI Slots
Storage	• Supported by ATI SB450 - 4 x Ultra DMA133/100/66 IDE devices - 4 x SATA devices - RAID 0 and RAID 1 configuration
Audio	• 8-channel audio CODEC • Compliant with Intel Azalia specification

LAN	• Realtek10/100 Mbps Fast Ethernet Controller
Rear panel I/O	• 1 x PS/2 keyboard connector • 1 x PS/2 mouse connector • 4 x USB ports • 1 x RJ45 LAN connector • 1 x Serial port (COM1) • Audio jack for Line-in, Microphone, and 8-channel line out
BIOS features	• Award BIOS with 4Mb or 8Mb Flash ROM • Supports Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • Supports ACPI revision 1.0B specificaion
Internal I/O	• 1 x 24-pin ATX Power Supply Connector & 4-pin 12 V Connector • 1 x Floppy connector- supports 360K ~ 2.88M Bytes, 3 Mode FDDs or LS120 • 2 x IDE connectors • 4 x Serial ATA connectors • 2 x USB 2.0 headers support additional 4 USB ports • 1 x SMBus header • 1 x Front panel switch/LED header • 1 x Front panel audio header

	• 1 x LPT header • 1 x IR1 header • 1 x CD in header • 1 x CPUFAN1 conncetor • 1 x NBFAN1 connector • 3 x CASFAN connectors
Form Factor	• ATX size • 305mm x 244mm

1.4 Special Features

Extreme Power

Device plug with USB-like ease!

Upgrade your PC to Server-grade power now!

Slash memory access time!

One-key boot device selection!

Awesome overclocking!

Uncompromising DVD audio quality!

Increased, supercharged 3D graphics and performance!

New Generation of I/O interface!

The most efficient algorithm!

The most powerful engine!

Instant and Automatic overclocking technology!

Extreme Guardian

Auto restart after power loss!

PC protection tool kit!

A 'time machine' to protect and restore files!

Memory module alert!

Extreme Link

PCI 2.3 support!

All the USB 2.0 connectivity you'll ever need!

More port options!

A cooling channel with a fansink placed on top of the PWM controller!

More options for data storage!

Auto-negotiate your 10/100M LAN!

Provides RAID0 and RAID1 modes!

Extreme Genius

Color-coding for easy connections!

Rounded corners for strength and safety!

Eliminate data highway roadblocks!

1.5 Major Components

1. ***CPU socket***
   LGA775 surface mount, Zero Insertion Force socket for Intel Pentium4/Pentium D Processors supports FSB 1066/800/533 MHz that allows up to 8.53 GB/s data transfer rates.
2. ***Dual-channel DDR2 DIMM sockets***
   These four 240-pin DIMM sockets supports up to 4GB system memory using unbuffered DDR2 400/ 533/667 DDR DIMMs.
3. ***Super I/O controller***
   The Low Pin Count (LPC) interface provides the commonly used super I/O functionality. The chipset supports a high performance floppy disk controller, a multi-mode parallel port, one serial port, a game port, the mouse and keyboard interface.
4. ***Northbridge controller***
   RD400X integrates a TV encoder, output for external TMDS, and north bridge functionality in a single BGA package. It supports Pentium 4 or Pentium D desktop systems in the performance sector.
5. ***Southbridge controller***
   The SB450 integrated peripheral controller supports various I/O functions including four Serial ATA connectors, single channel UltraDMA 133/100/66/33 master mode EIDE controller, eight USB 2.0 ports, Azalia Audio interface, and PCI 2.3 interface.

6. Flash ROM

This ROM contains the programmable BIOS program.

7. PCI slots

These two 32-bit PCI 2.3 expansion slots support bus master PCI cards like SCSI or LAN cards with 133MB/s maximum throughput.

8. LAN Controller

The 10/100Mbps LAN delivers a transfer rates up to 10/100Mbps.

9. PCI Express x1 (PCIE2/PCIE1) slot

These two PCI Express x1 slots are fully compliant to the PCI Express Base Specification revision 1.0a.

10. PCI Express x16 (PCIEX16A1/PCIEX16A2) slot

This motherbaord has two x16 PCI Express slots, which are intended for external PCI Express graphics cards.

11. Audio CODEC

The audio CODEC is compliant with Intel Azalia spec and supports 8-channel High Definition audio.

a. Anti-Burn LED indicator

When this LED is lit up, do not remove the memory module from your DIMM slot or else your memory module will be damaged.

1.6 Headers and Connectors

1. *ATX12V1*

This connector supplies the CPU operation voltage (Vcore). Don't forget to connect the 4-pin ATX 12V connector, otherwise the system cannot boot up.

2. *CPUFAN1 (CPU Fan Connector, 4 pin)*

Please note that a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal conditions or being damaged by overheating. The fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.

3. *IR1 (Infrared header, 6-1 pin)*

The motherboard supports an infrared (IR1) data port. Infrared ports allow the wireless exchange of information between your computer

and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

4. CASFAN3 (Case cooling fan connector, 3 pin)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.

5. ATX1(ATXPWR, 24 pin)

AC power cord should only be connected to your power supply until after ATX power cable and other related devices are firmly connected to the motherboard. Make sure that your ATX12V power supply can provide 8A of 12V and at least 1A on the +5V standby. The minimum recommended power is 300W for a fully-configured system. If not, the system may become unstable or may not even boot up.

6. IDE 1/2 (IDE1/IDE2 Connectors, 40-1 pin)

These are supported by the SB450 South Bridge. Please connect the first hard disk to IDE 1 and connect the CD-ROM to IDE 2. The streamline IDE cable must be the same side with the Pin 1.

7. SATA 1/2/3/4 (Serial ATA Connectors, 7 pin)

These next generation connectors delivered by the SB450 South Bridge support the thin Serial ATA cables for Serial ATA hard disks. The current Serial ATA interface allows up to 150MB/s data transfer rate, faster than the standard parallel ATA with 133MB/s (UltraATA 133)

8. SMB1 (SMBus Header, 6-1 pin)

This connector allows you to connect SMBus (System Management Bus) devices. Devices communicate with an SMBus host and/or other SMBus

devices using the SMBus interface.

9. SPK1(Speaker Header, 4-pin)

Connect the case speaker cable to the header.

10. PANEL1 (Front Panel Header, 10-1 pin)

The front panel connector provides a standard set of switch and LED connectors commonly found on ATX or Micro ATX cases.

11. LPT1 (Onboard LPT port, 26-1 pin)

This 25-pin port connects a parallel printer, a scanner, or other devices.

12. USB3/USB4 (Front USB Headers, 10-1 pin)

If the USB ports on the rear panel are inadequate, two USB headers are available for additional USB ports. The USB header complies with USB 2.0 specification that supports up to 480 Mbps connection speed. This is a speed advantage over the conventional 12 Mbps on USB 1.1.

13. FDD1 (Floppy Connector, 34-1 pin)

Please connect the floppy drive ribbon cables to FDD. It supports 360K, 12M, 720K, 1.44M and 2.88M bytes floppy disk types.

14. CD_IN1 (CD In Connector, 4 pin)

Connect CD-ROM or DVD-ROM audio out to the connector.

15. AUDIO1 (Front Panel Audio Header, 10-1 pin)

This is an interface for the Intel front panel audio cable that allows convenient connection and control of audio devices.

Notes: If your front panel cable is separated, please connect it to pin1 and pin3 or pin5 and pin7 to activate the MIC function.

16. SPDIFO1 (SPDIF Out Header, 4 pin)

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

17. CASFAN1/2 (Case cooling fan conenctor, 3 pin)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.

18. Battery

Danger of explosion if battery is incorrectly replaced. Replace only with the same of equivalent type recommended by the manufacturer.

19. ATX4P1 (Auxiliary power connector for graphics cards)

ATX4P1 power connector is for power supply plug; it offers adequate supply of power to the motherboard. The power supply plug is designed to fit connector in only one orientation. When installing two graphics cards, do not forget to connect the 4-pin power plug to the ATX4P1. If not, the system may become unstable.

1.7 Jumpers

1. *CLR_CMOS1(Clear CMOS)*

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RAM data. Before clearing the CMOS data, make sure to turn the system off.

1-2: NORMAL

2-3: CLEAR

2. *BIOS_WP1(BIOS Flash Protect)*

This jumper enables you to prevent the BIOS from being updated (flashed).

1-2: DISABLE

2-3: ENABLE

1.8 Rear Panel

1. ***PS/2 mouse port***
   This 6-pin connector is for connecting PS/2 mouse.
2. ***RJ-45 port***
   This port allows connection to a Local Area Network (LAN) through a network hub. It supports up to 10/100 Mbps transfer rate.
3. ***Center/Bass Jack ****
   This jack connects a tape player or other audio sources. In 8-channel mode, the function of this jack is Center/Bass speaker out.
4. ***Line in jack ****
   The function of the jack is microphone input.
5. ***Front Out Jack ****
   This jack connects a tape player or other audio sources. In 8-channel mode, the function of this jack is Front speaker out.
6. ***Back Surround Jack ****
   This jack connects a tape player or other audio sources. In 8-channel mode, the function of this jack is Back-Surround speaker out.
7. ***Microphone in Rear jack ****
   The function of the jack is microphone input rear.
8. ***Side Surround Jack ****
   This jack connects a tape player or other audio sources. In 8-channel mode, the function of this jack is Side Surround speaker out.
9. ***USB 2.0 ports 1 ~ 4***
   These four Universal Serial Bus (USB) ports are available for connecting USB 2.0.
10. ***Serial port***
    This 9-pin COM1 port is for serial devices.
11. ***PS/2 keyboard port***
    This 6-pin connector is for connecting PS/2 keyboard.

Note: The audio ports with a * sign can be changed to audio input or audio output by changing the driver utility setting.

This chapter explains the hardware setup procedure for this motherboard, such as installing the CPU, memory modules, expansion cards, as well as the jumpers

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2.1 Installing the CPU & the CPU cooling fan

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

B. Open the load plate
- Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
- Lift up the lever.
- 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 the triangle marker to the pin 1 location.

D. Close the load plate
- Slightly push down the load plate onto the tongue side, and hook the lever.
- CPU is locked completely.

E. Apply thermal grease on top of the CPU.

F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

G. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detailed installation procedure.

1. 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.

2. DO NOT remove the CPU cap from the socket before installing a CPU.

2.2 Installing Memory Module

1. Push the latches on each side of the DIMM slot down.
2. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
3. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch onto the edges of the DIMM.

Table A: DDR2 QVL (Qualified Vendor List)

The following DDR2 memory modules have been tested and qualified for use with this motherboard.

Type	Size	Vendor	Module Name
DDR2 400	256MB	Hynix	HYMP532U646-E3 AA
		NANYA	NT256T64UH4A0F-5A
	512MB	NANYA	NT512T64U88A0F-5A
DDR2 533	256MB	Infineon	HYS64T32000HU-3.7-A
		Kingston	KVR533D2N4
		A-DATA	M2OHY2F3G3110A1B0Z
		SAMSUNG	M378T3253FGO-CD5
		Elixir	M2U25664TUH4A0F-37B
		Ramaxel	RML 1040M28D5F-533
	512MB	SAMSUNG	M378T6553BGO-CD5
		AENEON	AET660UD00-370A98X
		Kingston	KVR533D2N4
DDR2 667	512MB	SyncMAX	S2R512M-08RCA-5300
		KINGMAX	KLCC28F-A8MF5
		NANYA	NT512T64U88A0BY-3C
		ELPIDA	EBE52UC8AAFV-DF-E
		Transcend	K4T51083QC

2.3 Connecting IDE, Floppy and SATA cable

1. Connect the IDE/Floppy disk ribbon cable. Make sure the side of the cable with the red stripe on it is plugged into *pin 1* side of the disk connector.
2. Connect the SATA cable to the SATA hard drive or the connector on the motherboard.

IDE connector

FDD connector

SATA connector

2.4 Installing Motherboard in a case

1. Place the motherboard over the mounting brackets.
2. Secure the motherboard with screws where appropriate.

3. Double check to make sure that the underside of the motherboard is not touching the case or else shorting may occur and make sure that the slots and I/O connectors line up with the holes on the back of the case.
4. Case LED leads are labeled, connect the leads to the panel header on the motherboard.

2.5 Connecting IDE, Floppy & SATA Device

1. If installing two IDE devices on the same ribbon cable, one device must be set to "master" and the other to "slave." Check the accompanying documents for the master/slave settings of IDE Devices, ie.: the hard disk and CD-ROM drives and then set their jumper caps accordingly.
2. Mount the drives in the case.
3. Connect the floppy disk ribbon cable and power cable.
4. Connect the IDE ribbon cable and power cable.

IDE Hard Disk

Floppy Disk Device

SATA Hard Disk

2.6 Installing Expansion cards

1. Open the chassis and then remove the slot bracket from the case where you will be installing the expansion cards.
2. Install your graphics card in the proper slot by pressing the card firmly into the slot.
3. Drive in the screw to secure the slot bracket of the expanson card.
4. Replace your computer's chassis cover.
5. Power on the computer, if necessary, set up BIOS utility of expansion card from BIOS.
6. Install related driver to complete the installation.

Installing one graphics card

Installing two graphics cards

Notes:

1. With one PCI Express Graphics card, install it into **PCIEX16A1** slot, and insert the **"SHUNT CARD"** into the **PCIEX16A2** slot. With two PCI Express Graphics cards, set them up onto **PCIEX16A1** and **PCIEX16A2** slots, and then plug in the external cable to unite the multi-GPU for CrossFire™ mode.
2. For CrossFire™ mode, a compatible Radeon graphics card and a related Radeon CrossFire Edition co-processor board are needed.

3. Please note that the graphics card driver supports Windows 2000/XP only.
4. Make sure to connect a 4-pin ATX power cable to the ATX4P1; otherwise, the system will be unstable.

2.7 Connecting the Power supply cable

The ATX power connector is keyed for proper insertion. There are two connectors for 4-pin and 24-pin ATX power cable. The plastic clip on the power connector should lock over the plastic tab on the motherboard power connector.

Connecting 20/24-pin power cable

Users please note that the 20-pin and 24-pin power cables can both be connected to the ATX1 connector. With the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the ATX1 connector. However, using 20-pin power cable may cause the system to become unbootable or unstable because of insufficient electricity.

20-pin power cable

With ATX v1.x power supply, users please note that when installing 20-pin power cable, the latche of power cable falls on the left side of the ATX1 connector latch, just as the picture shows.

24-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable and the ATX1 match perfectly.

4-pin ATX12V1 power connector

Users please note that when installing 4-pin power cable, the latches of power cable and the ATX12V1 match perfectly.

2.8 Powering up

Turn on the power to the monitor and the computer. If necessary, format your hard disk drive and install an operating system.

In this chapter, you will learn how to adjust the BIOS (Basic Input and Output System) setup menus. It provides information on the system's configuration status and options to setup system parameters.

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3.1 Entering the BIOS Setup Menu

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 Performance Defaults
▶ Advanced Chipset Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Mangement Setup	Set User Password
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
Esc: Quit F9: Menu in BIOS F10: Save & Exit Setup	↑↓→← : Select Item
Time, Date , Hard Disk Type...	

3.2 Updating and Recovering the BIOS

A standard configuration has already been set in the Setup Utility. However, if you encounter a configuration error or you need a better performance. You can update or recover your system BIOS.

3.2-1 Using AWARD Flash to update your BIOS

1. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten).
2. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
3. Use the Award Flash Utility from the ECS support CD and download the last BIOS file for this motherboard from ECS web site (www.ecs.com.tw). Copy these files to the system diskette you created in step 2.
4. 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.)
5. At the A:\ prompt, type the Flash Utility program name and press <Enter>. You will see a screen similar to the following:

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

3.3 The Main Menu

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>.

3.3-1 Standard CMOS Features

This option displays basic information about your system.

Phoenix-AwardBIOS CMOS Setup Utility
Standard CMOS Features

			Item Help
Date (mm:dd:yy)	Wed, Feb 25 2004		Manu Level ►
Time (hh:mm:ss)	9 : 33 : 26		Change the day, month, year and century
► IDE Channel 0 Master		[ST380011A]	
► IDE Channel 0 Slave		[None]	
► IDE Channel 1 Master		[None]	
► IDE Channel 1 Slave		[AAPI 52X CDROM]	
► IDE Channel 2 Master			
► IDE Channel 3 Master			
► IDE Channel 4 Master			
► IDE Channel 5 Master			
Drive A	[1.44M, 3.5 in.]		
Video	[EGA/VGA]		
Halt On	[All Errors]		
Base Memory	640K		
Extended Memory	260096K		
Total Memory	261120K		

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

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

Press <Enter> to display the IDE submenu:

Phoenix-AwardBIOS CMOS Setup Utility
IDE Channel 0 Slave

		Item Help
IDE HDD Auto-Detection	[Press Enter]	
IDE Channel 0 Slave	[Auto]	Menu Level ►►
Access Mode	[Auto]	To auto-detect the HDD's size, head... on this channel
Capacity	80GB	
Cylinder	38309	
Head	16	
Precomp	0	
Landing Zone	38308	
Sector	225	

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

IDE HDD Auto-Detection

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

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

IDE Channel 0/1 Master/Slave/Extended IDE Drives (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. Please note that if you choose IDE Channel 2/3/4/5 Master, the item may change to Extended IDE Drive.

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

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

Access Mode (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, 3.5in.)

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

Video (EGA/VGA)

Thsi 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 chanages to these fields.

3.3-2 Advanced BIOS Features

This option defines advanced information about your system.

Phoenix-AwardBIOS CMOS Setup Utility
Advanced BIOS Features

	ATA 66/100 IDE Cable Msg.	[Enabled]
▶	CPU Feature	[Press Enter]
▶	Hard Disk Boot Priority	[Press Enter]
	CPU L1 & L2 Cache	[Enabled]
	Hyper-Threading Technology	[Enabled]
	Quick Power On Self Test	[Enabled]
	First Boot Device	[Floppy]
	Second Boot Device	[Hard Disk]
	Third Boot Device	[CDROM]
	Boot Other Device	[Enabled]
	Boot Up Floppy Seek	[Disabled]
	Boot Up NumLock Status	[On]
	Gate A20 Option	[Fast]
	Typematic Rate Setting	[Disabled]
X	Typematic Rate (Chars/Sec0	6
X	Typematic Delay (Msec)	250
	Security Option	[Setup]
	APIC Mode	[Enabled]
	OS Select For DRAM > 64MB	[Non-OS2]
	HDD S.M.A.R.T. Capability	[Disabled]

Item Help

Menu Level ▶

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

ATA 66/100 IDE Cable Msg (Enabled)

Enables or disables the ATA 66/100 IDE Cable Msg. This message will appear during reboot when you use 40-pin cable on your 66/100 hard disks.

►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

Thermal Management	[Thermal Monitor 1]	Item Help
TM2 Bus Ratio	[14 X]	
TM2 Bus VID	[1.2000V]	
Limit CPUID MaxVal	[Disabled]	Menu Level ►►
C1E Function	[Auto]	Thermal Monitor 1 (On die throtting)
Execute Disable Bit	[Enabled]	Thermal Monitor 2 Ratio & VID transition

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

Thermal Management (Thermal Monitor 1)

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

TM2 Bus Ratio (14X)

This item helps you to set the frequency (bus ratio) of the throttled performance that will be initiated when the on-die sensor goes from not hot to hot. You may set the bus ratio number from 0-255. This feature is available when CPU supports Thermal Monitor 2.

TM2 Bus VID (1.2000V)

This item helps you to set the voltage of the throttled performance that will be initiated when the on-die sensor goes from not hot to hot. This feature is available when CPU supports Thermal Monitor 2.

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".

C1E Function (Auto)

This item allows users to set the C1E Function to be Auto or configured manually.

Execute Disable Bit (Enabled)

Enable this item to prevent certain classes of malicious "buffer overflow" attacks when combined with a supporting operating system.

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

►Hard Disk Boot Priority

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

Phoenix-AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority

1. Pri.Master:	Item Help
2. Pri.Slave:	
3. Sec. Master:	Menu Level ►►
4. Sec. Slave:	Use ↑ > or ↓ < > to select a device, then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.
5. USBHDD0:	
6. USBHDD1:	
7. USBHDD2:	
8. Bootable Add-in Cards	

↑↓→← : Move PU/PD+/-/:Change Priority F10:Save ESC:Exit

CPU L1 & L2 Cache (Enabled)

All processors that can be installed in this motherboard use internal level 1 (L1) and external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

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.

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 diskete 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.

The disk drive software monitors the internal performance of the motors, media, heads and electronics of the drive. The host software monitors the overall reliability status of the drive. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T applet, warns the user of the impending condition and advises appropriate action to protect the data.

3.3-3 Advanced Chipset Features

These items define critical timing parameters of the mainboard. 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, this may cause fatal errors or instability into your system.

Phoenix-AwardBIOS CMOS Setup Utility
Advanced Chipset Features

		Item Help
Current MRC Version	6.4	
Current RSB Frequency	133 MHz	
Current DRAM Frequency	200 MHz	Menu Level ►►
Memory Clock	[Auto]	
► Adjust DRAM Timing	[Press Enter]	
► Adjust PCIE Configurations	[Press Enter]	
System BIOS Cacheable	[Disabled]	

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

Current MRC Version, FSB Frequency, DRAM Frequency

This item shows the current ATI Memory Reference code version, current FSB frequency, and DRAM frequency. Users cannot make changes to it.

Memory Clock (Auto)

This item enable users to manually set the memory clock or leave it at the default auto setting.

▶Adjust DRAM Timing (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
Adjust DRAM Timing

		Item Help
Single Addr Translation	[Enabled]	Menu Level ▶
LAQ Bypass	[Enabled]	
PIF Stage	[Disabled]	
BIU Power Mgmt	[Disabled]	
Memory Bank Alignment	[Auto]	
Channel Map NB	[2]	
Channel Map GFX	[4]	
Bank0 Map	[7]	
Bank1 Map	[13]	
Bank0 Map NB[7]		
Bank1 Map NB[13]		
Dynamic Clock	[Enabled]	
AUTO Calibration	[Enabled]	
AUTO DQS	[Disabled]	
Address Step Enable	[Auto]	
Impedence Control	[Disabled]	

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

Single Addr Translation (Enabled)

This item enables or disables the single address translation function of DRAM timing.

LAQ Bypass (Enable)

This item enables or disables the LAQ bypass function of DRAM timing.

PIF Stage (Disable)

This item enables or disables the PIF stage function of DRAM timing.

BIU Power Mgmt (Disabled)

This item enables or disables BIU Power Management function.

Memory Bank Alignment (Auto)

This item enables users to set the Memory Bank Alignment manually or by Auto.

Channel Map NB (2)

This item allows users to manually adjust the value of Channel Map NB.

Channel Map GFX (4)

This item allows users to manually adjust the value of Channel Map GFX.

Bank0/1 Map/Map NB (7) (13)

This item allows users to manually adjust the value of Bank0 & Bank1 Map & Map NB.

Dynamic Clock (Enabled)

This item allows users to enable or disable the dynamic clock function of the DRAM timing.

AUTO Calibration (Enabled)

This item allows users to enable or disable the AUTO calibration function of the DRAM timing.

AUTO DQS (Disable)

This item allows users to enable or disable the AUTO DQS function of the DRAM timing.

Address Step Enable (Auto)

This item allows users to set the Address Step Enable to be Auto or configured manually.

Impedence Control (Disable)

This item allows users to enable or disable the Impendence Control of the DRAM timing.

Press <Esc> to return to the Advanced Chipset Features

▶Adjust PCIE Configurations (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
Adjust PCIE Configuration

Add 10% Extra Current	[Disabled]	Item Help
PCIE GFX Overclocking	[Disabled]	
PCIE GFX TWO PORT	[Disabled]	
Power down unused GFX ports	[Enabled]	Menu Level ▶
Power down unused GPP lanes	[Enabled]	
PCIE CARD WORKAROUND	[Enabled]	
GFX Link Width	[X16]	
SDVO	[Disabled]	
PCIE GFX SB Payload Size	[64 Bytes]	
PCIE GPP SB Payload Size	[64 Bytes]	
PCIE Hide Unused Port	[Auto]	

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

Add 10% Extra Current (Disabled)

This item allows users to enable or disable the function of Adding 10% Extra Current to the PCIE card.

PCIE GFX Overclocking (Disabled)

This item allows users to enable or disable PCIE GFX Overclocking function.

PCIE GFX TWO PORT (Disabled)

This item allows users to enable or disable PCIE GFX TWO PORT function.

Power down unused GFX ports (Enabled)

This item allows users to enable or disable Power down unused GFX ports function.

Power down unused GPP lanes (Enabled)

This item allows users to enable or disable Power down unused GPP lanes function.

PCIE CARD WORKAROUND (Enabled)

This item allows users to enable or disable PCIE CARD WORK AROUND function.

GFX Link Width(x16)

This item allows users to manually set the GFX Link Width.

- **SDVO (Disabled): This item allows users to enable or disable the SDVO function.**

PCIE GFX SB Payload Size (64 Bytes)

This item allows users to manually set the value of PCIE GFX SB Payload Size.

PCIE GPP SB Payload Size (64 Bytes)

This item allows users to manually set the value of PCIE GPP SB Payload Size.

PCIE Hide Unused Port (Auto)

This item allows users to set the PCIE Hide Unused Port to be set manually or configured by BIOS automatically.

System BIOS Cacheable (Disabled)

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

Press <Esc> to return to the Advanced Chipset Features

3.3-4 Integrated Peripherals

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

Phoenix-AwardBIOS CMOS Setup Utility
Integrated Peripherals

		Item Help
▶ South OnChip IDE Device	[Press Enter]	Menu Level ▶
▶ South OnChip PCI Device	[Press Enter]	
SuperIO Device	[Press Enter]	
▶ Init Display First	[PCIEx]	
Onboard LAN Device	[Enabled]	
Onboard Lan Boot ROM	[Disalbed]	

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

▶ South OnChip IDE Device (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
OnChip IDE Device

		Item Help
IDE DMA transfer access	[Enabled]	Menu Level ▶ ▶
OnChip IDE Channel0	[Enabled]	
Onchip IDE Channel1	[Enabled]	
IDE Prefetch Mode	[Disabled]	
Primary Master PIO	[Auto]	
Primary Slave PIO	[Auto]	
Secondary Master PIO	[Auto]	
Secondary Slave PIO	[Auto]	
Primary Master UDMA	[Auto]	
Primary Slave UDMA	[Auto]	
Secondary Master UDMA	[Auto]	
Secondary Slave UDMA	[Auto]	
IDE HDD Block Mode	[Enabled]	

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

IDE DMA transfer access (Enabled)

This item allows you to enable the transfer access of the IDE DMA.

OnChip IDE Channel0/1 (Enabled)

This item allows you to enable or disable the OnChip IDE Channel 0/1.

IDE Prefetching (Enabled)

The onboard IDE drive interface supports IDE prefetching, for faster drives. If you install a primary and secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

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.

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.

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, select Enabled for automatic detection of the optimal mumber of block read/write per sector the drive can support.

Press <Esc> to return to the Integrated Peripherals screen

▶South OnChip PCI Device (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
South OnChip PCI Device

Onboard Azalia Audio	[Auto]	Item Help
Onboard SATA Controller	[Both]	
Onboard SATA Type	[IDE Controller]	Menu Level ▶▶
USB EHCI Controller	[Enabled]	
USB Controller	[Enabled]	
USB Legacy Support	[Enabled]	
USB Mouse Support	[Enabled]	

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

Onboard Azalia Audio (Auto)

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

Onboard SATA Controller (Both)

This option allows you to enable or disable the onboard SATA controller. Enable this item to activate the onboard SATA function.

Onboard SATA Type (IDE Controller)

Use this item to define the controller type of the SATA device, whether to be the IDE Controller or RAID controller.

USB EHCI Controller (Enabled)

Use this item to enable or disable the onboard USB EHCI Controller function.

USB Controller (Enabled)

Use this item to enable or disable the onboard USB Controller function.

USB Legacy Support (Enabled)

Use this item to enable or disable the USB Legacy Support.

USB Mouse Support (Enabled)

Use this item to enable or disable the USB Mouse Support.

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

▶SuperIO Device (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
SuperIO Device

		Item Help
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	Menu Level ►►
UART Port	[2F8/IRQ3]	
UART Mode Select	[IrDA]	
UR2 Duplex Mode	[Full]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
ECP Mode Use DMA	[3]	

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

Onboard FDC Controller (Enabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1 (3F8/IRQ4)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1 (COM1).

UART Port (2F8/IRQ3)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1 (COM1).

UART Mode Select (Normal)

This field is available if the Onboard Serial Port 2 field is set to any option but Disabled. UART Mode Select enables you to select the infrared communication protocol-Normal (default), IrDA, or ASKIR.

UR2 Duplex Mode (Full)

This field is available when UART Mode is set to either ASKIR or IrDA. This item enables you to determine the infrared function of the onboard infrared chip. The options are Full and Half (default). Full-duplex means that you can transmit and send information simultaneously. Half-duplex is the transmission of data in both directions, but only one direction at a time.

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 (SPP)

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

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

ECP Mode Use DMA (3)

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

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

Init Display First (PCIEx)

Use this item to decide which device to be the initial display device.

Onboard LAN Device (Enabled)

This item enables or disables the onboard LAN device function.

Onboard LAN Boot ROM (Disabled)

This item enables or disables the onboard LAN Boot ROM function.

3.3-5 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.

Phoenix-AwardBIOS CMOS Setup Utility
Power Management Setup

		Item Help
ACPI Suspend Type	[S3(STR)]	Menu Level ▶
HDD Power Down	[Disable]	
Video Off Option	[Suspend -> Off]	
Video Off Method	[V/H SYNC+Blank]	
Soft-Off by PWRBTN	[Instant-Off]	
▶ Resume Event Control	[Press Enter]	

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

ACPI Suspend Type (S3(STR))

Use this item to define how your system suspends. In the default, S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory. If you select S1 (POS), the suspend mode is equivalent to a software power down.

HDD Power Down (Disabled)

The IDE hard drive will spin down if it is not accessed within a specified length of time.

Video Off Option (Suspend —> Off)

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

Video Off Method (V/H SYNC+Blank)

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Soft-Off by PWRBTN (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 Event Control (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
Resume Event Control

	Resume By Ring	[Disabled]	Item Help
	Resume By PCI PME	[Enabled]	
	Resume By USB (S3)	[Disabled]	Menu Level ►►
	Resume By PCI-E	[Enabled]	
	Resume By Mouse	[Disabled]	
	Resume By Keyboard	[Disabled]	
X	Hot Key Resume	Ctrl-F1	
	PWRON After PWR-Fail	[Off]	
	RTC Alarm Resume	[Disabled]	
X	Date (of Month) Alarm	0	
X	Time (hh:mm:ss) Alarm	0 0 0	

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

Resume by Ring (Disabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of Ring device is detected.

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 USB (S3) (Disabled)

This option allows the activity of the USB devices to wake up the system from S3 sleep state.

Resume by PCI-E (Enabled)

This option allows the activity of the PCI-E device to wake up the system from sleeping status.

Resume by Mouse (Disabled)

This option allows the activity of the mouse device to wake up the system from sleeping status.

Resume by Keyboard (Disabled)

This option allows the activity of the keyboard device to wake up the system from sleeping status.

- **Hot Key Resume (Ctrl-F1):** Use this item to define the password when using the keyboard "hot key" to resume the system.

PWRON After PWR-Fail (Off)

This item enables your computer to power on after the power returns from a power failure.

RTC Alarm Resume (Disabled)

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

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

3.3-6 PNP/PCI Configurations

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

Phoenix-AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

		Item Help
Reset Configuration Data	[Disabled]	Menu Level ►►
Resources Controlled By	[Auto(ESCD)]	Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
X IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ For USB	[Enabled]	

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

Reset Configuration Data (Disabled)

If 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(ESCD))

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

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

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

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

PCI/VGA Palette Snoop (Disabled)

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

Assign IRQ For USB (Enabled)

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

3.3-7 PC Health Status

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

Phoenix-AwardBIOS CMOS Setup Utility
PC Health Status

		Item Help
Power 20/24 Pin Message	[Disabled]	Menu Level ▶
Shutdown Temperature	[Disabled]	
CPU Vcore	1.40V	
+3.3 V	3.23V	
+5 V	4.71V	
+12V	11.58V	
VBAT	3.15V	
System Temperature	35 °C	
CPU Temperature	27 °C	
CPU FAN Speed	4017RPM	
CASFAN Speed		
NBFAN speed		

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

Power 20/24Pin Message (Enabled)

This item allows users to enable or disable the 20/24pin power cable indicator message.

Shutdown Temperature (Disabled)

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

System Component Characteristics

These fields provide you with information about the systems current operating status. You cannot make changes to these fields.

- **CPU Vcore**
- **VBAT**
- **System Temperature/CPU Temperature**
- **CPU FAN Speed**
- **CAS FAN speed**
- **NB FAN speed**

3.3-8 Frequency/Voltage 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/Voltage Control

		Item Help
CPU Clock Ratio	[14X]	Menu Level ▶
VDIMM Voltage Adjust	[Normal]	
VCORE Voltage Adjust	[Normal]	
Auto Detect PCI Clk	[Enabled]	
Spread Spectrum	[Disabled]	
CPU Clock	[200MHz]	
CPU Dynamic Overclocking	[+4]	

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

CPU Clock Ratio (14X)

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***	***14***
	CPU Frequency	***X 200***
	Installed CPU Clock Speed	***2800 MHz***

VDIMM Voltage Adjust (Normal)

Use this item to manually adjust the VCORE voltage of the onboard DIMMs.

VCORE Voltage Adjust (Normal)

Use this item to manually adjust the VCORE voltage of the onboard CPU.

Auto Detect DIMM/PCI Clk (Enabled)

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

Spread Spectrum (Disabled)

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

CPU Clock (200MHz)

Use the CPU Host Clock to set the frontside bus frequency for the installed processor. You can key in the number within the range to make a precise and ideal adjustment.

CPU Dynamic Overclocking (+4)

Use this item to enable or disable the CPU Dynamic Overclocking function.

3.3-9 Load Performance Defaults

If you select this item and press Enter a dialog box will appear. If you select [OK], and then Enter, the Setup Utility loads a set of performance default values. These default settings are quite demanding and your system might not function properly if you are using slower CPU, memory, or other low-performance components.

Warning: To load Performance settings may make your system become unstable or unbootable. When loading the Performance Defaults fails, users can choose "either" step below to return the motherboard to its defaults BIOS:

1. *Power on the system and press "Insert" key. The system will bypass the previous BIOS setting and automatically reload the default BIOS.*
2. *Locate the "Clear CMOS" jumper and proceed with the "Clear CMOS" to recover the default BIOS setting. Please refer to Chapter 1, page 13, to complete the clear CMOS action. (This procedure requires opening the chasis!)*

3.3-10 Load Optimized Defaults

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. When your hardware does not support the "Optimized Defaults", fatal system errors or instability may occur. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Users please use the factory BIOS default setting of "Load Optimized Defaults" when install Operation System onto your system.

3.3-11 Set Supervisor/User Password

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

ENTER PASSWORD

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

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

PASSWORD DISABLED

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

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

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

3.3-12 Save & Exit Setup

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.

3.3-13 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 chapter delivers contents of the ECS support CD.

Reference

4.1 Software CD Information.....4-1
4.2 Running the Software CD.....4-1
4.3 Setup Tab.....4-1
4.4 Application Tab.....4-2
4.5 Read Me Tab.....4-2
4.6 Software Utilities Introduction.....4-2

4.1 Software CD Information

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. 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.

Note: The Intel High Definition audio functionality unexpectedly quits working in Windows Server 2003 Service Pack 1 or Windows XP Professional x64 Edition. Users need to download and install the update packages from the Microsoft Download Center "before" installing HD audio driver bundled in the driver CD. Please log on to http://support.microsoft.com/default.aspx?scid=kb;en-us;901105#appliesto for more information.

4.2 Running the Software CD

To begin using the software CD, simply insert the CD into your CD-ROM drive. The CD automatically display the multimedia if auto run is enable in your computer.

4.3 Setup Tab

The setup tab shows three buttons - **Setup, Browse CD, Exit.**

Setup button: Click the **Setup** button to run the software installation program. Select from the menu which software you want to install.

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

Note: 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.

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

3. *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.

Browse CD button: The Browse CD button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD.

Exit button: The **Exit** button closes the Auto Setup window.

4.4 Application Tab

Lists the software utilities that are available on the CD.

4.5 Read Me Tab

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

4.6 Software Utilities Introduction

Award Flash 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, rin WINFLASH.EXE from the following directory: \UTILITY\WINFLASH

I'm InTouch

I'm InTouch remote access software allows you to login and work on your far-away computer, just as if you were sitting behind it! Run programs, transfer files, manage e-mail, contacts and calendar events. With I'm InTouch, you always have access to your PC and the important information and programs that you need.

WinCinema

■ **WinDVD Creator Plus**

WinDVD Creator Plus is designed for people who want to make their own DVDs but who don't want to learn complicated programs. By taking you through 4 DVD-making steps, WinDVD Creator Plus walks you through capturing video, editing it, adding titles, transitions, effects, music, DVD menus and finally burning the finished product. User also can direct-burn to DVD when DVD burner is available.

■ **WinDVD**

WinDVD is the world's most popular DVD player and supports over 30 new features and enhancements such as improved picture quality, easier-to-use Time-Stretching, MP3 playback, and Video Desktop - which lets you watch movies under your desktop icons while you work or check email.

■ **WinRIP**

WinRIP lets you record, store, organize, and enjoy you music collection - on your PC, CD player, and portable player. Organize your Music Galleryand create your own playlists. You can switch between simple Player mode or full-featured Jukebox mode.

Pro Magic Plus

This amazing software not only provides users with convenient and instant restoration of your computer, but also restores within seconds important data back to the preferred state at a specific point in time. Pro Magic also combines several other functions including anti-virus, backup, uninstall software and multi-booting to satisfy all your system protection needs.

DPU (Data Process Utility)

Specially designed for file protection, security and management this DPU or data processing utility insures the safety of important data through complete file restoration, eliminating file damage even in case of improper operation. User can freely edit original files after a set restore time point. The DPU can even restore even deleted files.

Adobe Reader

This item install the Adobe Acrobat Reader. The Acrobat Reader software is for viewing files saved in Portable Document Format (PDF).

Show Shifter

ShowShifter, the award winning software, combines viewing TV, video, CD, MP3 and digital pictures into one easy to use application. With a little help from Showshifter your PC will be the ultimate home media center.

Résumé des caractéristiques

CPU	• Socket LGA775 pour processeur Intel Pentium4/Pentium D • Prend en charge jusqu'au FSB 1066MHz • Prise en charge de la Technologie Hyper-Threading
Chipset	• ATI RD400X & SB450 • North Bridge: RD400X • South Bridge: SB450
Mémoire	• Architecture mémoire DDR2 double canal • 4 x sockets DIMM DDR2 240 broches prenant en charge jusqu'à 4 Go • Prend en charge les DDR2 400/533/667 • DIMMs DDR2 de 1,8V sans tampon, Non-ECC
Options d'extension	• 2 x logements PCI Express x16 • 2 x logements PCI Express x1 • 2 x logements PCI
Stockage	• Pris en charge par ATI SB450 - 4 x périphériques Ultra DMA133/100/66 IDE - 4 x périphériques SATA - Configuration RAID 0, RAID 1
Audio	• CODEC audio 8-canaux • Conforme aux spécifications Intel Azalia

LAN	• Contrôleur Fast Ethernet Realtek10/100 Mbps
E/S du panneau arrière	• 1 x connecteur de clavier PS/2 • 1 x connecteur souris PS/2 • 4 x ports USB • 1 x connecteur LAN RJ45 • 1 x port Série (COM1) • Prises audio pour entrée microphone, ligne d'entrée et sortie Audio 8 canaux
Caractéristiques du BIOS	• Award BIOS avec ROM Flash de 4Mb or 8Mb • Prend en charge Plug & Play 1.0A, APM 1.2, Multi Boot, DMI • Prend en charge les spécifications 1.0B révision ACPI
E/S interne	• 1 x Connecteur d'alimentation ATX 24 broches & Connecteur 12 V 4 broches • 1 x connecteur de lecteur de disquette- prenant en charge 360K ~ 2,88M octets, 3 Lecteurs de disquettes Modes ou LS120 • 2 x connecteurs IDE • 4 x connecteurs ATA Série • 2 x embases USB 2.0 supportant 4 ports USB supplémentaires • 1 x embase SMBus • 1 x embase de commutateur/LED de panneau avant • 1 x embase audio de panneau avant

	• 1 x embase LPT • 1 x embase IR1 • 1 x embase entrée CD • Connecteur 1x CPUFAN1 • Connecteur 1x NBFAN1 • Connecteurs 3x CASFAN
Facteur de Forme	• Taille ATX • 305mm x 244mm

Zusammenfassung der Merkmale

CPU	• LGA775 Sockel für Intel Pentium4/Pentium D Prozessor • Unterstützt bis zu 1066MHz FSB • Unterstützt Hyper-Threading Technologie
Chipsatz	• ATI RD400X & SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Arbeitsspeicher	• Dual-Kanal DDR2 Speicherarchitektur • 4 x 240-Pin DDR2 DIMM Sockel, unterstützt bis zu 4 GB • Unterstützt DDR2 400/533/667 • Unterstützt Nicht-ECC, ungepufferte 1,8V DDR2 DIMMs
Erweiter-ungsmöglichkeiten	• 2 x PCI Express x16 Steckplätze • 2 x PCI Express x1 Steckplätze • 2 x PCI Steckplätze
Speicher	• Unterstützt durch einen ATI SB450 - 4 x Ultra DMA133/100/66 IDE Geräte - 4 x SATA Geräte -RAID 0, RAID 1 Konfiguration
Audio	• 8-Kanal Audio CODEC • Entspricht Intel Azalia Spezifikation

LAN	• Realtek10/100 Mbps Fast Ethernet Controller
Rear panel I/O	• 1 x PS/2 Tastaturanschluss • 1 x PS/2 Mausanschluss • 4 x USB Anschlüsse • 1 x RJ45 LAN Anschlüss • 1 x Seriellanschluss (COM1) • Audiobuchsen für Mikrofon-in, Line-in und 8-Kanal Audioausgabe
BIOS Merkmale	• Award BIOS mit 4Mb oder 8 Mb Flash ROM • Unterstützt Plug und Play 1.0A, APM 1.2, Multi Boot, DMI • Unterstützt ACPI Revision 1.0B Spezifikation
Internes I/O	• 1 x 24-Pin ATX Netzteilanschluss & 4-Pin 12 V Anschluss • 1 x Floppylaufwerkanschluss, unterstützt 360K ~ 2.88M Bytes, 3 Modus Festplatten oder LS120 • 2 x IDE Anschlüss • 4 x Seriell ATA Anschlusse • 2 x USB 2.0 Anschlusse, unterstützt zusätzlich 4 USB Anschluss • 1 x SMBus Anschluss • 1 x Schalter in der Frontabdeckung/LED-Anschluss • 1 x Audioanschluss in der Frontabdeckung

	• 1 x LPT Anschluss • 1 x IR1 Anschluss • 1 x CD-in Header • 1 x CPUFAN1Stecker • 1 x NBFAN1Stecker • 3 x CASFAN Stecker
Formfaktor	• ATX-Größe • 305mm x 244mm

Indice delle caratteristiche

CPU	• LGA775 Socket per processore Intel Pentium4/Pentium D • Supporto di FSB fino a 1066 MHz • Supportp di Tecnologia Hyper-Threadig
Chipset	• ATI RD400X & SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Memoria	• Dual-channel DDR2 memory architecture • 4 x 240-pin DDR2 DIMM socket che supportano sino a 4 GB • Supporta DDR2 400/533/667 • Supporta Non-ECC, unbuffered 1,8V DDR 2 DIMMs
Opzioni d'espansione	• 2 slots PCI Express x16 • 2 slots PCI Express x1 • 2 slots PCI
Deposito	• Supportato da ATI SB450 - 4 dispositivi Ultra DMA133/100/66 IDE - 4 dispositivi SATA - Configurazione RAID 0, RAID 1
Audio	• 8-canale audio CODEC • Compatibile con le specifiche Intel Azalia

Doppia LAN	• Controller Fast Ethernet Realtek a 10/100 Mbps
Pannello posteriore I/O	• 1 connettore tastiera PS/2 • 1 connettore mouse PS/2 • 4 porte USB • 1 connettore RJ45 LAN • 1 porta Seriale (COM1) • Prese jack audio per ingresso microfonico, line-in e uscita Audio a 8 canali
Caratteristic-he BIOS	• BIOS Award con 4Mb o 8Mb Flash ROM • Supporta Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • Supporta specifiche di revisione ACPI 1.0B
I/O interno	• 1 connettore di alimentazione 24-pin ATX e connettore 4-pin da 12 V • 1 connettore floppy - supporta 360K ~ 2,88M Byte, 3 Mode FDDs o LS120 • 2 connettore IDE • 4 connettori Seriali ATA • 2 supporti header USB 2.0 con 4 porte USB supplementari • 1 SMBus header • 1 interruttore del pannello frontale /LED header • 1 pannello frontale header audio

	• 1 LPT header • 1 IR1 header • 1 testata CD-In • Connettore 1 x CPUFAN1 • Connettore 1 x NBFAN 1 • Connettori 3 x CASFAN
Form Factor	• Dimensione -ATX • 305mm x 244mm

Resumen de Características

CPU	• LGA775 Socket para procesador Intel Pentium4/Pentium D • Soporta hasta 1066MHz FSB • Soporte Hyper-Threading Technology
Chipset	• ATI RD400X & SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Memoria	• Arquitectura de memoria DDR2 Canal Dual • 4 x zócalos 240-pin DDR2 DIMM soporta hasta 4 GB • Soporta DDR2 400/533/667 • Soporta DIMMs No-ECC, sin buffer 1.8V DDR2
Opciones de expansión	• 2 x ranuras PCI Express x16 • 2 x ranuras PCI Express x1 • 2 x ranuras PCI
Almacenaje	• Soportado por ATI SB450 - 4 x dispositivos Ultra DMA133/100/66 IDE - 4 x dispositivos SATA - Configuración RAID 0, RAID 1
Audio	• 8-canales audio CODEC • Conforme con la especificación Intel Azalia

LAN	• Controlador de Fast Ethernet de Realtek10/100 Mbps
I/O del panel trasero	• 1 x conector de teclado PS/2 • 1 x conector de ratón PS/2 • 4 x puertos USB • 1 x conector RJ45 LAN • 1 x puerto Serial (COM1) • Clavijas de audios para la microphone in (entrada de micrófono), line-in (entrada de línea) y salida de audio de 8-canales
Característi-cas de BIOS	• Award BIOS con 4Mb o 8Mb Flash ROM • Soporta Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • Soporta especificación ACPI revisión 1.0B
I/O Interno	• 1 x Conector de Suministro 24-pin ATX & Conector 4-pin 12 V • 1 x conector Floppy - soporta 360K ~ 2.88M Bytes, FDD de 3 Modos o LS120 • 2 x conectores IDE • 4 x conectores Serial ATA • 2 x cabezales USB 2.0 soporta 4 puertos USB adicionales • 1 x cabezal SMBus • 1 x interruptor del panel frontal/cabezal LED • 1 x cabezal de audio del panel frontal • 1 x cabezal LPT

	• 1 x cabezal IR1 • 1 x cabezal CD • Conector 1 x CPUFAN1 • Conector 1 x NBFAN1 • Conectores 3 x CASFAN
Factor de Forma	• Tamaño de ATX • 305mm x 244mm

Sumário de Características

CPU	• Tomada de parede LGA775 para processador Intel Pentium4/ Pentium D • Suporta até 1066MHz FSB • Suporta Tecnologia de Hyper-Threading
Chipset	• ATI RD400X & SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Memória	• Arquitectura de memória DDR2 bicanal • 4 x Tomada de parede 240 pinos DDR DIMM suporta até 4 GB • Suporta DDR2 400/533/667 • Suporta sem ECC (Código Corrector de Erros), 1.8V DDR2 DIMMs sem buffers
Opções de expansão	• 2 x Ranhuras PCI Express x 16 • 2 x Ranhuras PCI Express x 1 • 2 x Ranhuras PCI
Armazenam-ento	• Suportado por ATI SB450 - 4 x Dispositivos Ultra DMA133/100/66 IDE - 4 x Dispositivos SATA - Configuração RAID 0, RAID 1
Áudio	• CODEC áudio 8-canais • Cumpre com a especificação Intel Azalia

LAN duplo	• Controlador de Ethernet Rápida Mbps Realtek10/100
Painel traseiro I/O	• 1 x conector de teclado PS/2 • 1 x conector de rato PS/2 • 4 x portas USB • 1 x conector RJ45 LAN • 1 x porta de Série (COM1) • Fichas áudio para entrada de microfone, entrada e saída de Áudio 8-ch
Característi-cas BIOS	• Award BIOS com 4Mb ou 8Mb Flash ROM • Suporta dispositivo Plug e Play 1.0A, APM 1.2, Multi Boot, DMI • Suporta especificação da revisão 1.0B ACPI
I/O interno	• 1 x Conector de Fonte de Alimentação 24 pinos ATX & Conector 4 pinos 12 V • 1 x Conector flexível - suporta 360K ~ 2.88M Bytes, FDDs de 3 Modos ou LS120 • 2 x Conectores IDE • 4 x Conectores de Série ATA • 2 x Colector USB 2.0 suporta 4 portas USB adicionais • 1 x Colector SMBus • 1 x Colector com interruptor/LED do painel traseiro • 1 x Colector de áudio do painel traseiro

	• 1 x Colector LPT • 1 x Colector IR1 • 1 x CD no cabeçalho • Conector 1 x CPUFAN1 • Conector1 x NBFAN1 • Conectores 3 x CASFAN
Coeficiente de Forma	• Tamanho ATX • 305mm x 244mm

特徴概要

プロセッサ	• Intel Pentium4/Pentium D プロセッサ用のLGA775 ソケット • FSBを1066MHz までサポート • Hyper-Threading 技術対応
チップセット	• ATI RD400X & SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
メモリ	• デュアルチャネルDDR2メモリのアーキテクチャ • 4つの240ピンDDR2 DIMMソケットで最大4 GBまでサポート • DDR2 400/533/667サポート • Non-ECC非バッファー1.8V DDR2 DIMM
拡張スロット	• 2つのPCI Express x16スロット • 2つのPCI Express x1スロット • 2つのPCI スロット
保存装置	• ATI SB450 チップセットがサポートするのは - 4つのUltra DMA133/100/66 IDE デバイス - 4つのSATA デバイス - RAID 0、RAID 1 の 構成
オーディオ	• 8チャネルオーディオCODEC • Intel Azalia 規格に準拠

LAN	• Realtek10/100 Mbps 高速イーサーネットコントローラ
背面パネル入出力	• 1つのPS/2 キーボードコネクタ • 1 つのPS/2 マウスコネクタ • 4 つのUSBポート • 1 つのRJ45 LAN コネクタ • 1 つのシリアルポート(COM1) • マイクロホン入力、ライン入力、および8-chのオーディオ出力の諸オーディオジャックを搭載済み
BIOSの諸機能	• 4 Mb または 8Mb の Flash ROM のAward BIOS • Plug&Play 1.0A、APM 1.2、Multi Boot、および DMIをサポート • ACPI revision 1.0B 規格に準拠
内部入出力	• 1 つの24ピンATX 電源サプライコネクタと4ピン12 V コネクタ • 1つのフロッピーディスクドライブコネクタ、360Kから2.88Mバイトの3 Mode FDDとLS120をサポート • 2つのIDEコネクタ • 4つのシリアルATAコネクタ • 2つのUSB 2.0ヘッダーでさらなる4つのUSBポートを増設可能 • 1 つのSMBusヘッダー

日本語

	• 1 つの前面パネルスイッチ/LED ヘッダー • 1つのフロントパネルオーディオヘッダー • 1つのLPT ヘッダー • 1 つのIR1ヘッダー • 1 つのCD入力ヘッダー • 1 x CPUFAN1 コネクタ • 1 x NBFAN1 コネクタ • 3 x CASFAN コネクタ
寸法	• ATXサイズ • 305mm x 244mm

특성 요약

CPU	• 인텔 펜티엄 4/펜티엄D 프로세서를 위한 LGA775 소켓 • 최대 1066MHz FSB 지원 • Hyper-Threading 기술 지원
칩셋	• ATI RD400X & SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
메모리	• 듀얼 채널 DDR2 메모리 아키텍처 • 4 x 240 핀 DDR2 DIMM 소켓, 최대 4 GB 지원 • DDR2 400/533/667 지원 • Non-ECC, unbuffered 1.8V DDR2 DIMMs 지원
확장 옵션	• 2 x PCI 익스프레스 x16 • 2 x PCI 익스프레스 x1 • 2 x PCI 슬롯
저장	• ATI SB450 지원 - 4 x Ultra DMA133/100/66 IDE 장치 - 4 x SATA 장치 -RAID 0, RAID 1 구성
오디오	• 8-채널 오디오 코덱 • 인텔 Azalia 사양에 부합

듀얼 랜	• Realtek10/100 Mbps 패스트 이더넷 컨트롤러
뒷 패널 I/O	• 1 x PS/2 키보드 커넥터 • 1 x PS/2 마우스 커넥터 • 4 x USB 포트 • 1 x RJ45 LAN 커넥터 • 1 x 시리얼 포트 (COM1) • 마이크폰 입력, 라인 입력 및 8 채널 오디오 출력 용 오디오 잭
BIOS 특성	• 8Mb 즉 4Mb 플래시 ROM의 Award BIOS • 플러그 앤 플레이 1.0A, APM 1.2, Multi Boot, DMI 지원 • ACPI 1.0B 사양 지원.
내부 I/O	• 1 x 24 핀 ATX 파워 써플라이 커넥터 및 4 핀 12 V 커넥터 • 1 x 플로피 커넥터- 360K ~ 2.88M Bytes, 3 모드 FDD 또는 LS120 지원 • 2 x IDE 커넥터 • 4 x 시리얼 ATA 커넥터 • 2 x USB 2.0 헤더, 추가적으로 4 개의 USB 포트 지원s • 1 x SMBus 헤더 • 1 x 앞 패널 스위치/LED 헤더

	• 1 x 앞 패널 오디오 헤더 • 1 x LPT 헤더 • 1 x IR1 헤더 • 1 x 헤더에 CD • 1 x CPUFAN1 커넥터 • 1 x NBFAN1 커넥터 • 3 x CASFAN 커넥터
규격	• ATX 사이즈 • 305mm x 244mm

功能摘要

中央處理器	• Intel Pentium4/Pentium D 處理器的LGA775 插座 • 支援前端匯流排至1066MHz • 支援超執行緒(Hyper-Threading)技術
晶片組	• ATI RD400X & SB450 • 北橋晶片: ATI RD400X • 南橋晶片: ATI SB450
記憶體	• 雙通道DDR2 記憶體架構 • 4個240針DDR2 DIMM 插槽支援至4 GB • 支援DDR2 400/533/667 • 支援非ECC型無緩衝1.8V DDR2 DIMM
擴充槽	• 2個PCI Express x16槽 • 2個PCI Express x1槽 • 2個PCI槽
儲存裝置	• 以ATI SB450晶片支援 – 4個Ultra DMA133/100/66 IDE 裝置 – 4個SATA 裝置 – 支援RAID 0、RAID 1 設定
音訊	• 8聲道音訊CODEC • 相容於Intel Azalia規格

LAN	• Realtek10/100 Mbps 高速乙太控制器
背面板 輸出入介面	• 1個PS/2 鍵盤連接器 • 1個PS/2 滑鼠連接器 • 4個USB埠 • 1個RJ45 LAN 插孔 • 1個序列埠(COM1) • 麥克風輸入、線級輸入、及8聲道音訊輸出等用之音訊插孔
BIOS功能	• 採4Mb 或 8Mb Flash ROM的Award BIOS • 支援Plug and Play 1.0A、 APM 1.2、 Multi Boot、及 DMI • 支援ACPI 修訂版1.0B 規格
內部輸出入 介面	• 1個24針ATX 電源供應器連接器及4針12 V 連接器 • 1個軟碟機連接器，可支援360K至2.88M位元組之3 Mode 軟碟機及LS120軟碟機 • 2個IDE連接器 • 4個序列ATA 連接器 • 2個USB 2.0接頭，可支援4個額外的USB埠 • 1個SMBus接頭 • 1個前面板開關及1個LED 接頭

	• 1個前面板音訊接頭 • 1個LPT接頭 • 1個IR1接頭 • 1個CD輸入接頭 • 1x CPUFAN1連接器 • 1x NBFAN1連接器 • 3x CASFAN 連接器
主機板尺寸	• ATX 尺寸 • 305mm x 244mm

功能摘要

CPU	• 用于 Intel Pentium4/Pentium D 处理器的 LGA775 插座 • 支持 1066MHz FSB • 支持超线程(Hyper-Threading)技术
芯片组	• ATI RD400X & SB450 • 北桥：ATI RD400X • 南桥：ATI SB450
内存	• 双通道 DDR2 内存架构 • 4 个 240 线 DDR2 DIMM 插槽，内存最大可支持 4 GB • 支持 DDR2 400/533/667 • 支持非 ECC，非缓冲 1.8V DDR2 DIMM
扩展选项	• 2 个 PCI Express x16 • 2 个 PCI Express x1 • 2 个 PCI 插槽
存储	• 支持 ATI SB450 - 4 个 Ultra DMA133/100/66 IDE 设备 - 4 个 SATA 设备 - RAID 0, RAID 1 配置
音频	• 8 声道音频编解码器 • 符合 Intel Azalia 规格

双 LAN	• Realtek10/100Mbps 高速以太网控制器
后面板 I/O	• 1 个 PS/2 键盘接口 • 1 个 PS/2 鼠标接口 • 4 个 USB 端口 • 1 个 RJ45 LAN 接口 • 1 个串口 (COM1) • 用于麦克风入、线入和 8 声道音频输出的音频插孔
BIOS 功能	• Award BIOS (4Mb/8Mb Flash ROM) • 支持即插即用 1.0A、APM 1.2、Multi Boot、DMI • 支持 ACPI Revision 1.0B 规格
集成 I/O	• 1 个 24 针 ATX 电源接口和 1 个 4 针 12 V 接口 • 1 个软驱接口- 支持 360K ~ 2.88M 字节，3 Mode FDD 或 LS120 • 2 个 IDE 接口 • 4 个串行 ATA 接口 • 2 个 USB 2.0 接头，支持另外 4 个 USB 端口 • 1 个 SMBus 接头 • 1 个前面板开关/LED 接头 • 1 个前面板音频接头 • 1 个 LPT 接头 • 1 个 IR1 接头

	• 1 个 CD 输入接头 • 1 x CPUFAN1接口 • 1 x NBFAN1 接口 • 3 x CASFAN 接口
外形	• ATX 尺寸 • 305mm x 244mm

简体中文

Характеристики

CPU	• Разъем LGA775 для процессоров типа Intel Pentium4/Pentium D • Поддержка FSB до 1066 МГц • Поддержка технологии Hyper-Threading
Чипсет	• ATI RD400X и SB450 • Северный мост: ATI RD400X • Южный мост: ATI SB450
Память	• Архитектура памяти Dual-channel DDR2 • 4 240-штырьковых сокета для DDR2 DIMM с поддержкой до 4 ГБ памяти • Поддержка DDR2 400/533/667 • Поддержка небуферизуемой памяти Non-ECC 1.8V DDR2 DIMM
Возможности расширения	• 2 слота PCI Express x16 • 2 слота PCI Express x1 • 2 слота PCI
Массовая память	• Поддерживаемая ATI SB450 - 4 устройства Ultra DMA133/100/66 - 4 устройства SATA - Конфигураци RAID 0, RAID 1
Аудио	• 8-канальный аудио CODEC • Совместимость с технологией Intel Azalia

LAN	• Быстрый контроллер Fast Ethernet Realtek 10/100 Mbps
Гнезда входа/выхода на тыльной панели	• 1 гнездо клавиатуры PS/2 • 1 гнездо мыши PS/2 • 4 порта USB • 1 гнездо RJ45 LAN • 1 серийный порт (COM1) • Гнезда аудио для микрофона, входа и 8-канального выхода
Особенности BIOS'a	• Award BIOS с 4Мб или 8Мб Flash ROM • Поддержка Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • Поддержка ACPI вер.1.0B
Внутренние гнезда входа/выхода	• 1 24-штырьковое гнездо питания ATX и 4-штырьковое гнездо 12 V • 1 гнездо подключения накопителя НГМД с поддержкой форматов 360K ~ 2.88МБ, 3 формата FDD или LS120 • 2 гнезд IDE • 4 гнезд Serial ATA • 2 гнезда USB 2.0 с поддержкой 4 дополнительных портов USB • 1 гнездо SMBus • 1 гнездо выключателя/индикатора передней панели

	• 1 аудио гнездо передней панели • 1 гнездо LPT • 1 гнездо IR1 • 1 разъем CD in • Коннекторы 1 x CPUFAN1 • Коннекторы 1 x NBFAN1 • Коннекторы 3 x CASFAN
Габариты	• Стандарт ATX • 305мм x 244мм

Cechy

CPU	• Gniazdo LGA775 dla procesora Intel Pentium4/Pentium D • Obsługuje szynę FSB do 1066MHz • Obsługuje technologię Hyper-Threading
Chipset	• ATI RD400X & SB450 • Mostek północny: ATI RD400X • Mostek południowy: ATI SB450
Pamięć	• Architektura pamięci dwukanałowej DDR2 • 4 x 240-nóżkowe złącza DDR2 DIMM obsługujące do 4 GB pamięci • Obsługuje DDR2 400/533/667 • Obsługuje niebuforowaną pamieć 1.8V DDR2 DIMM typu non-ECC
Możliwości rozbudowy	• 2 złącze PCI Express x16 • 2 złącza PCI Express x1 • 2 złącza PCI
Urządzenia pamięc masowej	• Obsługiwane przez ATI SB450 - 4 urządzenia Ultra DMA133/100/66 IDE - 4 urządzenia SATA - Konfiguracje RAID 0, RAID 1
Audio	• 8-kanałowy audio CODEC • Zgodność z technologią Intel Azalia

LAN	• Kontroler Fast Ethernet Realtek 10/100 Mbps
Gniazda We/Wy na tylnym panelu	• 1 gniazdo klawiatury PS/2 • 1 gniazdo myszy PS/2 • 4 gniazda USB • 1 złącze RJ45 LAN • 1 port szeregowy (COM1) • Gniazda audio typu jack wejście dla mikrofonu, gniazdo wejściowe i wyjściowe audio, 8 kanałów.
Cechy BIOSu	• Award BIOS, zaopatrzony w 4Mb bo 8Mb Flash ROM • Obsługuje technologie Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • Obsługuje technologię ACPI w wersji 1.0B
Wewnętrzne gniazda We/Wy	• 1 gniazdo 24-nóżkowe zasilacza ATX i 4-nóżkowe gniazdo zasilania 12 V • 1 gniazdo napędu dyskietek, obsługuje formaty 360K ~ 2.88M Bajt, 3 Mode FDD lub LS120 • 2 złącza IDE • 4 złącza Serial ATA • 2 złącza USB 2.0 obsługujące 4 dodatkowe porty USB • 1 złącze SMBus • 1 złącze włącznika / wskaźnika LED na panelu przednim

	• 1 gniazdo audio na panelu przednim • 1 złącze LPT • 1 złącze IR1 • 1 gniazdo CD in • Złącze 1 x CPUFAN1 • Złącze 1 x NBFAN1 • Złącza 3 x CASFAN
Wymiary	• Standard ATX • 305mm x 244mm

Souhrn vlastností

CPU	• Patice LGA775 pro procesory Intel Pentium4/Pentium D • Podpora až 1066 MHZ FSB • Podpora technologie „Hyper-Threading“
Čipová sada	• ATI RD400X a SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Paměť	• Dvojkanálová paměťová architektura DDR2 • 4 x 240kolíková patice DDR2 DIMM, podporující paměť do kapacity až 4 GB • Podpora DDR2 400/533/667 • Podpora modulů Non-ECC 1,8 V DDR2 DIMM bez vyrovnávací paměti
Rozšiřující sloty	• 2 x slot PCI Express x16 • 2 x slot PCI Express x1 • 2 x slot PCI
Disková zařízení	• Podporovaná ATI SB450 - 4 x zařízení Ultra DMA133/100/66 IDE - 4 x zařízení SATA - Konfigurace RAID 0, RAID 1
Zvuk	• 8kanálový zvukový kodek • Splňuje požadavky standardu Intel Azalia

LAN	• Řadič sítě Fast Ethernet 10/100 Mbps, Realtek
Vstupy/ výstupy na zadním panelu	• 1x konektor klávesnice PS/2 • 1x konektor myši PS/2 • 4x port USB • 1x konektory LAN RJ45 • 1x sériový port (COM1) • Zvukové konektory pro mikrofon, zvukový vstup a 8kanálový zvukový výstup
Vlastnosti BIOS	• Award BIOS s 4 Mb nebo 8Mb Flash ROM • Podpora Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • Podpora standardu ACPI verze 1.0B
Interní vstupy/ výstupy	• 1x 24kolíkový napájecí konektor ATX a 4kolíkový konektor 12 V • 1x konektor floppy diskových mechanik – podpora 360 kB až 2,88 MB, 3 režimy FDD nebo LS120 • 2x konektor IDE • 4x konektor Serial ATA • 2x rozhraní USB 2.0 s podporou dalších 4 USB portů • 1x rozhraní SMBus • 1x rozhraní pro spínač na předním panelu/LED • 1x rozhraní pro zvukový vstup/výstup na předním panelu

	• 1x rozhraní LPT • 1x rozhraní IR1 • 1x rozhraní vstupu CD • Konektory: 1 x CPUFAN1 • Konektory: 1 x NBFAN1 • Konektor: 3 x CASFAN
Velikost	• Rozměry standardu ATX • 305mm x 244mm

Sumarul caracteristicilor

Unitatea centrală (CPU)	• Soclu LGA775 pentru procesoare Intel Pentium4/Pentium D • Suportă FSB cu până la 1066 MHz • Compatibil cu tehnologia Hypre-Threading
Set de chipuri	• ATI RD400X şi SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Memorie	• Architectură cu module de memorie DDR2 cu canal dual • Patru socluri DDR2 DIMM cu 240 de ace, capacitate maximă de 4 GB • Funcţionează cu module DDR2 de 400/533/667 • Funcţionează cu module DDR2 DIMM de 1,8 V fără zonă tampon, ne-ECC
Sloturi de extindere	• Două sloturi PCI Express de 16x • Două sloturi PCI Express de 1x • Două sloturi PCI
Stocare	• Compatibilă cu ATI SB450 - Patru unităţi Ultra DMA133/100/66 IDE - Patru unităţi SATA - Configuraţie RAID 0, RAID 1
Audio	• CODEC audio ALC880 cu 8 canale • Compatibil cu specificaţia Intel Azalia

LAN dual	• Contoler Fast Ethernet Realtek10/100 Mbps
I/O de pe panoul din spate	• Un conector de tastatură PS/2 • Un conector de mouse PS/2 • Patru porturi USB • Un conector LAN RJ45 • Un port serial (COM1) • Mufe audio pentru microfon, intrare audio şi ieşire audio cu 8 canale
Caracteristici BIOS	• Award BIOS cu Flash ROM de 4 Mb sau 8Mb • Compatibil cu Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • Compatibil cu ACPI, versiunea 1.0B
I/O internă	• Un conector cu 24 ace pentru alimentare cu energie şi conector de 12 V cu 4 ace • Un conector Floppy, pentru dischete de 360 KB–2,88 MB, FDD cu 3 moduri sau LS120 • Două sloturi IDE • Patru conectoare ATA seriale • Două conectoare USB 2.0, cu posibilitate pentru alte 4 porturi USB • Un conector SMBus • Un comutator/conector LED pe panoul frontal

	• Un conector audio pe panoul frontal • Un conector LPT • Un conector IR1 • Header 1 x CD in • Conector 1 x CPUFAN1 • Conector 1 x NBFAN1 • Conectoare 3 x CASFAN
Caracteristici externe	• Dimensiuni ATX • 305mm x 244mm

Параметри

Процесор	• Сокет LGA775 за процесор Intel Pentium4/Pentium D • Поддръжка на процесорна шина до 1066MHz • Поддръжка на технологията Hyper-Threading
Чипсет	• ATI RD400X & SB450 • Северен мост: RD400X • Южен мост: SB450
Памет	• двуканална архитектура на паметта DDR 2 • 4 слота 240-pin за DDR2 DIMM с поддръжка на общ капацитет до 4 GB • поддръжка на модули DDR2 400/533/667 • поддръжка на Non-ECC небуферирани модули 1.8V DDR2 DIMM
Слотове за разширяване	• 2 слота PCI Express x16 • 2 слота PCI Express x1 • 2 слота PCI
Възможности за съхраняване на данни	• поддържани от ATI SB450 - 4 устройства Ultra DMA133/100/66 - 4 устройства SATA - RAID 0, RAID 1
Аудио	• 8-канален аудио CODEC ALC880 • съвместимост със спецификацията Intel Azalia

LAN	• Мрежов контролер Realtek 10/100 Mbps Fast Ethernet
Портове Вход/Изход на задния панел	• 1 порт PS/2 за клавиатура • 1 порт PS/2 за мишка • 4 порта USB • 1 конектори RJ45 LAN • 1 сериен порт (COM1) • Аудио гнезда за микрофон, линеен вход и 8-канален аудио изход
Параметри на BIOS	• Award BIOS с 4Mb или 8Mb Flash ROM • поддръжка на спецификацията Plug and Play 1.0A, APM 1.2, Multi Boot, DMI • поддръжка на спецификацията ACPI revision 1.0B
Интегриран Вход/Изход контролер	• 1 конектор 24-pin ATX Power Supply и конектор 4-pin 12 V • 1 конектор за флопидисково устройство с поддръжка на устройства 360K ~ 2.88M Bytes, 3 Mode FDD или LS120 • 2 конектора IDE • 4 конектора Serial ATA • 2 колектора USB 2.0 с поддръжка на 4 допълнителни USB порта • 1 колектор SMBus • 1 колектор за бутоните и LED-индикацията на предния панел

	• 1 колектор за аудио вход/изход на предния панел • 1 колектор LPT • 1 колектор IR1 • 1 колектор за CD in • конектори за вентилатори 1 x CPUFAN1 • конектори за вентилатори 1 x NBFAN1 • колектора за вентилатори 3 x CASFAN
Размери	• ATX • 305mm x 244mm

Jellemzők összefoglalása

Központi egység(CPU)	• LGA775 foglalat Intel Pentium4/Pentium D processzoroknak • Az FSB maximum 1066 MHz-es • Támogatja a Hyper-Threading technológiát
Lapkakészlet	• ATI RD400X és SB450 • North Bridge: ATI RD400X • South Bridge: ATI SB450
Memória	• Duál csatornás DDR2 memória kiépítés • Négy 240 tűs DDR2 DIMM foglalat, maximum 4 GB-os kapacitással • 400/533/667-as DDR2 egységekkel működik • 1,8 V-os puffermentes nem ECC DDR2 DIMM egységeket is támogat
Bővítési foglalatok	• Két 16-szoros PCI Express • Két egyszeres PCI Express • Két PCI foglalat
Tárolás	• Az ATI SB450 által támogatott - Négy Ultra DMA 133/100/66 IDE eszköz - Négy SATA eszköz - RAID 0, RAID 1 konfiguráció
Audio	• 8 csatornás audio CODEC • Megfelel az Intel Azalia specifikációnak

LAN	• Realtek10/100 Mbps Fast Ethernet vezérlő
Hátsó panelen levő I/O	• Egy PS/2 billentyűzet csatlakozó • Egy PS/2 egércsatlakozó • Négy USB port • Egy RJ45 LAN csatlakozó • Egy soros port (COM1) • Audio csatlakozók mikrofon bemenethez, audio bemenethez és 8 csatornás audio kimenethez
BIOS jellemzők	• Award BIOS 4 Mb vagy 8Mb Flash ROM-mal • 1.0A Plug and Play, APM 1.2, Multi Boot, DMI támogatása • Kompatibilis az ACPI 1.0B változatával
Belső I/O	• Egy 24 tűs ATX tápforrás csatlakozó és négytűs 12 V-os csatlakozó • Egy floppy meghajtó 360 kB–2,88 MB lemezeknek, 3 üzemmódú FDD meghajtók vagy LS120 • Két IDE foglalat • Négy soros ATA csatlakozó • Két USB 2.0 csatlakozó, és további 4 USB porttal tud működni • Egy SMBus csatlakozó • Egy elülső panelen levő kapcsoló/LED csatlakozó • Az elülső panelen levő audio csatlakozó

	• Egy LPT csatlakozó • Egy IR1 csatlakozó • Egy CD in fejléc • Egy CPUFAN1 csatlakozó • Egy NBFAN1 csatlakozó • Három CASFAN csatlakozó
Alaki jellemzők	• ATX méret • 305mm x 244mm

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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.

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