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
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**

TGA-ZM-30-96-00

Essen, 04.03.2004

RWTÜV

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

CERTIFICATION SZEC

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

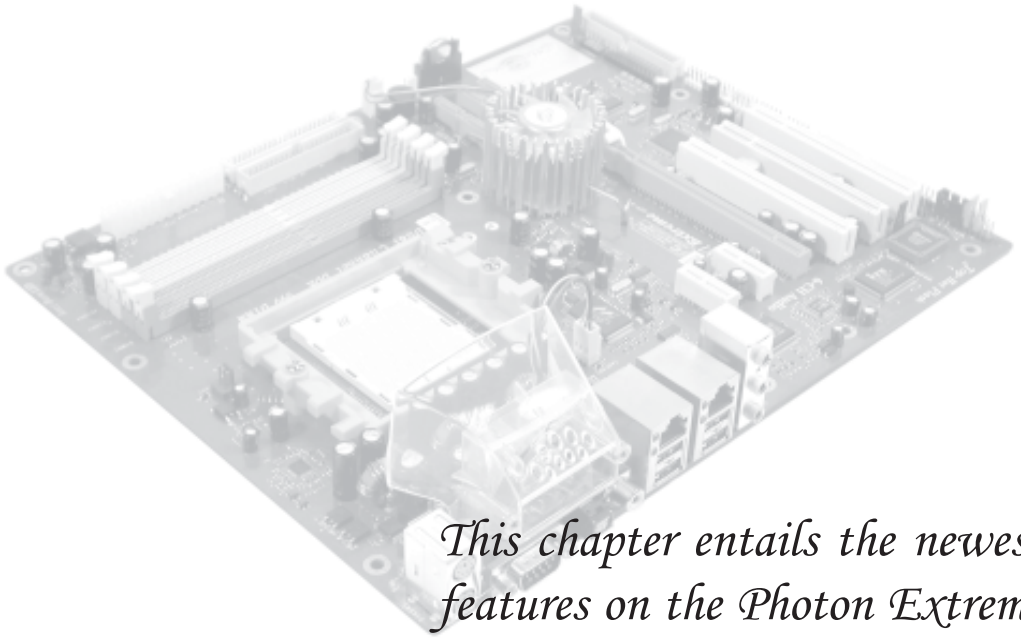
The Environmental Management System applies in the following area:

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,Shatoujiao,Shenzhen, P. R.China.

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

SHENZHEN ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION CENTER

Table of Contents



This chapter entails the newest technology and rich features on the Photon Extreme motherboard.

Reference

1.1 Introduction

Thank you for choosing the ECS KN1 Extreme motherboard.

The KN1 Extreme is the next generation of high performance motherboard designed to support the AMD Athlon 64/Athlon 64 FX CPU.

This motherboard has an ATX form factor that uses a 4-layer printed circuit board and measures 305 mm x 244 mm.

The KN1 Extreme motherboard is based on the NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) media and communications processor (MCP) to set a new benchmark for the best desktop platform solution. CrushK8-04 is a single-chip, highly integrated, high performance HyperTransport peripheral controller, unmatched by any other single chip-device controller. This motherboard supports up to 4 GB of system memory with PC3200/2700/2100/1600 DDR DIMMs, high resolution graphics via an PCI Express x16 slot, Dual LAN, USB 2.0, 6-channel audio, Digital S/PDIF out, and SATA support with RAID function.

1.2 Package Check List

Motherboard

User's Guide

Installation CD

SATA Power Cable

Top Hat Flash

I/O Shield

HDD, CD-ROM, and FDD Cables

Two SATA Cable

Cross Over Cable

USB+1394 PCI Bracket & housing

All pictures are for reference only.

1.3 Feature Summary

CPU	• Socket 939 for AMD Athlon 64/Athlon 64 FX CPU • High-performance HyperTransport CPU Interface • Transfer rate of 2000/1600/1200/800/400 MT/s
Chipset	• NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) media and communications processor (MCP)
Memory	• Dual-channel DDR memory architecture • 4 x 184-pin, 2.5V, DDR SDRAM DIMM sockets support up to 4 GB • Support DDR400/333/266/200 unbuffered DDR SDRAM
Expansion Slots	• 1 x PCI Express x16 slot • 2 x PCI Express x1 slots • 3 x PCI slots
Storage	• Supported by CK8-04 Ultra - 4 x Ultra DMA133/100/66/33 devices - 4 x SATA devices - RAID 0, RAID 1, RAID 0+1 configuration • Supported by SiS180 - 2 x Ultra DMA133/100/66/33 devices - 2 x SATA devices - RAID 0, RAID 1, RAID 0+1 configuration

IEEE 1394a	• TI TSB43AB22A IEEE1394a controller • Supports 2 x IEEE1394a cable ports at 100M bits/s, 200M bits/s, and 400M bits/s
Audio	• Realtek ALC655 6-channel audio CODEC • Compliant with AC'97 2.3 specification
Dual LAN	• Realtek RTL8100C 10/100 Mbps LAN controller • Marvell 88E1111 Giga LAN PHY
Rear panel I/O	• 1 x PS/2 keyboard • 1 x PS/2 mouse connector • 4 x USB ports • 2 x RJ45 LAN connectors • 1 x Serial port (COM1) • 2 x Digital SPDIF (Optical & Coaxial) out • 1 x Audio jack (Line-in, Line-out, and Mic-in ports)
BIOS features	• Award BIOS with 4Mb 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 • 3 x IDE connectors • 6 x Serial ATA connectors • 3 x USB 2.0 headers support additional 6 USB ports • 2 x 1394a headers • 1 x SMBus header • 1 x LPT1 header • 1 x Front panel switch/LED header • 1 x Front panel audio header • CD-in header • CPUFAN1/NBFAN1/CASFAN1~2 connectors
Form Factor	• ATX size • 305mm x 244mm

1.4 Special Features

Extreme Power

Device plug with USB-like ease!

Slash memory access time!

One-key boot device selection!

Uncompromising DVD audio quality!

New generation of I/O interface!

Double bandwidth SATA!

More bandwidth, low latency, and betterefficiency!

The safe and easy way to optimize PC performance!

Extreme Guardian

Auto restart after power loss!

PC protection toolkit!

A 'time machine' to protect and restore files!

Become your own BIOS 'doctor'!

Memory module alert!

Dr. LED!

Extreme Link

Add peripherals and consumer electronics devices!

PCI 2.3 support!

All the USB 2.0 connectivity you'll ever need!

More options for data storage!

Smart LAN!

More port options!

Industrial-strength LAN power!

Auto-negotiate your 10/100M LAN!

Server class dual LAN for both Internet and Intranet!

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

Let your PC as a fileserver!

Double digital audio!

Multiple RAID function plus unique recovery mechanism!

The fastest connection with efficiency and performance!

Extreme Genius

Color-coding for easy connections!

Flash BIOS from Windows!

Rounded corners for strength and safety!

Eliminate data highway roadblocks!

Ultra sound quality!

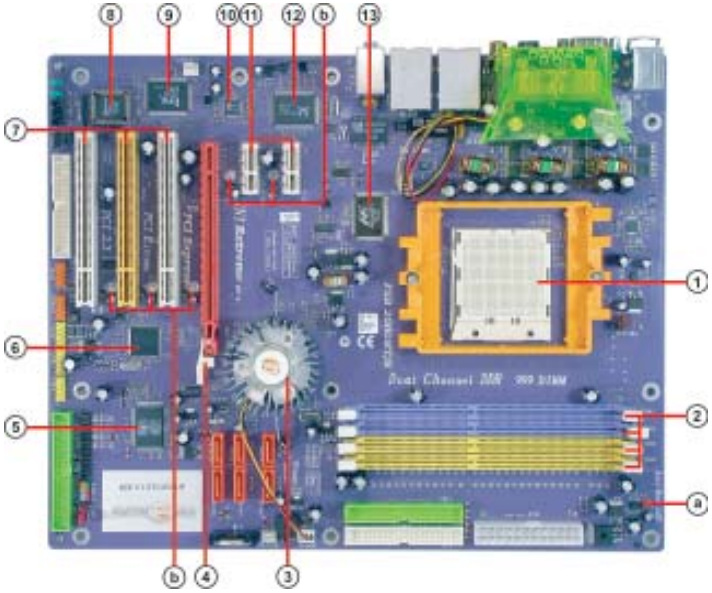
Dust proof auto shutter!

Clear and Clean!

Performance enhanced and security upgraded!

Professional-grade firewall utility!

1.5 Major Components



1. ***CPU socket***
   Socket 939 surface mount, Zero Insertion Force socket for AMD K8 Athlon 64 FX Processor support FSB 1000/800/600/400/200 MHz that allows up to 8 Gb/s data transfer rates.
2. ***Dual channel DDR DIMM sockets***
   These four 184-pin DIMM sockets support up to 4GB system memory using unbuffered PC3200/2700/2100/1600 DDR DIMMs.
3. ***The main integrated controller***
   The NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) media and commu nications processor (MCP) is a single-chip, highly integrated, high-performance HyperTransport peripheral controller. It has a x16, two x1 and one x2 or x1 PCI Express interfaces. It has a 16 x 16 HyperTransport interface to an AMD Athlon 64/Athlon 64 FX processor, four Serial-ATA 2 (SATA 2) interfaces, NVIDIA MAC with either RGMII or MII, dual ATA-133 interfaces, ten USB2.0 ports, audio/modem, and support for five PCI slots.
4. ***PCI Express x16 slot***
   The PCI Express x16 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specifica tion revision 1.0a.

5. *SiS 180 Serial ATA controller*

This motherboard incorporates the high performance SiS 180 IDE RAID controller, which supports RAID 0, RAID 1 and RAID 0+1 configuration.

6. *IEEE 1394a controller (TSB43AB22A)*

The IEEE 1394a controller provides high-speed and flexible PC connectivity to a wide range of peripherals and devices compliant to IEEE 1394a standards. The IEEE 1394a interface allows up to 400 Mbps tranfer rates.

7. *PCI slots*

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

8. *Flash ROM*

This 4Mb ROM contains the programmable BIOS program.

9. *Super I/O controller (ITE IT8712)*

This Super I/O provides the commonly used functionality. The chipset supports a high performance floppy disk controller, a multimode parallel port, one serial port, a game port, the mouse and keyboard interface.

10. *Audio CODEC (ALC655)*

The audio CODEC is compliant with AC'97 v2.3 spec and supports 6-channel audio.

11. *PCI Express x1 slots*

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

12. *10/100 Mbps LAN controller (RTL8100C)*

The 10/100 Mbps LAN controller delivers transfer rates up to 10/100 Mbps Ethernet connection.

13. *Giga LAN PHY (Marvell 88E1111)*

The Giga LAN PHY delivers a transfer rates up to 10/100/1000 Mbps. Ideal for handling large amounts of data such as video, audio and voice.

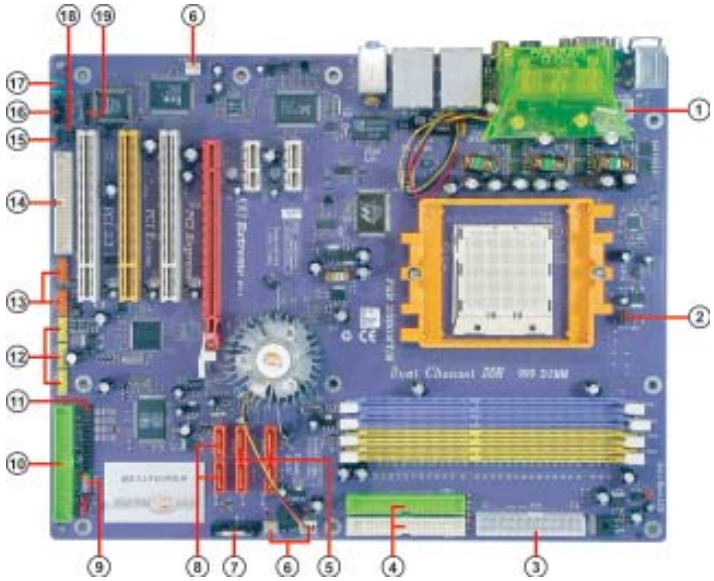
a. *Anti-Burn LED indicator*

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

b. *PCI LED indicator*

The blinking PCI LED indicates the PCI slot activity. These LEDs will stop blinking when add card has been installed. Blinking means no add card installed or add card was not properly installed.

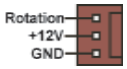
1.6 Headers and Connectors



1. *ATX12V*

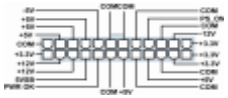
This connector supplies the CPU operation voltage (Vcore). Don't forget to connect the 4-pin ATX 12V connector, otherwise the system cannot boot up.

2. *CPUFAN1 (CPU Fan Connector, 3 pin)*



Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports maximum current up to 600 mA.

3. *ATX 1 (ATXPWR, 24 pin)*



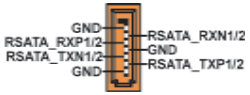
AC power cord should only be connected to your power supply until after ATX power cable and other related devices are firmly connected to the motherboard. Make sure that your ATX12V power supply could

provide 8A of 12V and at least 1A on the +5V standby. The minimum recommended power is 300W. If not, the system may become unstable or may not even boot up.

4. IDE 1/2 (IDE1/IDE2 Connectors, 40-1 pin, Green and White)

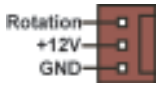
These are supported by CrushK8-04 Ultra. Please connect the first hard disk to IDE 1 and connect the CD-ROM to IDE 2. The streamline IDE cable must be the same side with the Pin 1.

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



These next generation connectors are delivered by CK8-04 Ultra supporting 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)

6. CASFAN1~2, NBFAN1 (Cooling Fan Connectors, 3 pin)

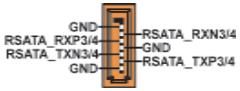


These connectors allow you to link with the cooling fans to lower the system temperature and the CK8-04 Ultra temperature.

7. Battery

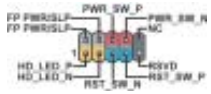
Danger of explosion if battery is incorrectly replaced. Replace only with the same of equivalent type recommended by the manufacturer.

8. SATA 5/6 (Serial ATA RAID Connectors, 7 pin, Orange)



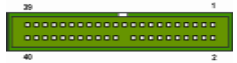
These Serial ATA connectors support SATA hard disks that you may configure as a RAID set. Through the onboard SiS180 RAID controller you may create a RAID 0, RAID 1, RAID 0+1, or multiRAID configuration together with the RAID ATA133 connector.

9. Panel1 (Front Panel Header, 10-1 pin)



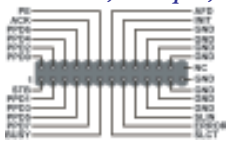
The front panel connector provides a standard set of switch and LED connectors commonly found on ATX or micro-ATX cases.

10. IDE 3 (IDE RAID ATA133 Connector, 40-1 pin, Green)



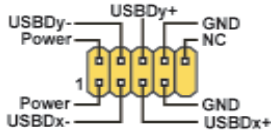
This connector supports either RAID 0 or RAID 1 configuration through the onboard SiS180 controller. You can connect two UltraATA 133 hard disks to this connector and set up a disk array configuration. You may also set up the UltraATA 133 hard disks with the Serial ATA hard disks on the Serial ATA RAID connectors to create a multi-RAID configuration.

11. LPT1 (Parallel Port Header, 26-1 pin, Black)



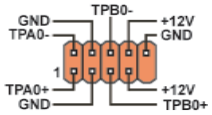
Connect the printer, scanner, or other device to this header.

12. USB 3/4/5 (Front USB Headers, 10-1 pin, Yellow)



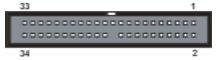
If the USB ports on the rear panel are inadequate, three USB headers are available for additional USB ports. The USB headers complies with USB 2.0 specification that supports up to 480 Mbps connection speed. This speed advantage over the conventional 12 Mbps on USB 1.1.

13. 1394A1/A2 (10-1 pin Headers, Orange)



Attach the 10-1 pin 1394 cable plug from the device to this connector. You may also connect a 1394-compliant internal hard disk to this connector.

14. FDD1 (Floppy Connector, 34-1 pin, Black)



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

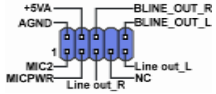
15. SJ1 (Single Color LED Header, 3-1 pin, Black)

If there is a 3-pin case LED cable, connect it to this SJ1 header.

16. CDIN1 (CD In Connector, 4 pin)

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

17. 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. By default, the pins labeled LINE OUT_R/BLINE_OUT_R and the pins LINE OUT_L/BLINE_OUT_L are shorted with jumper caps. Remove the caps only when you are connecting the front audio cable.

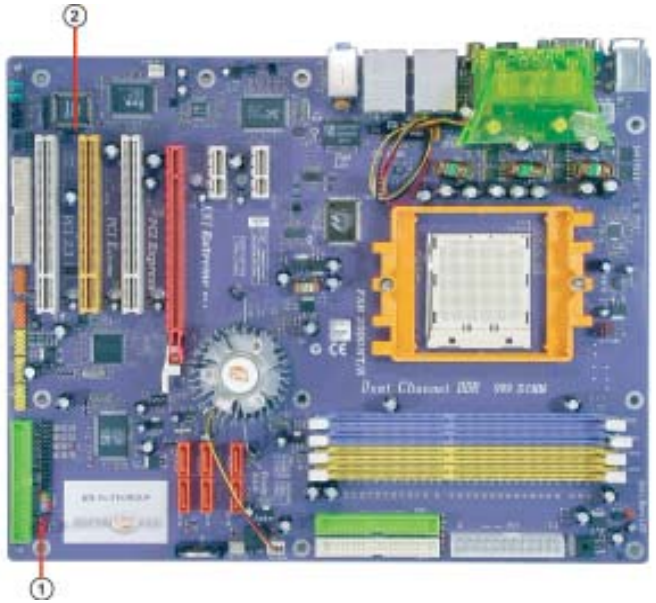
18. IR1 (Infrared Header, 6-1 pin, Black)

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.

19. 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.

1.7 Jumpers



1. *JP1 (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 RTC RAM data. Before clearing the CMOS data, make sure to turn the system off.

1-2: NORMAL (Default)

2-3: CLEAR

2. *JP3 (BIOS PROTECT)*

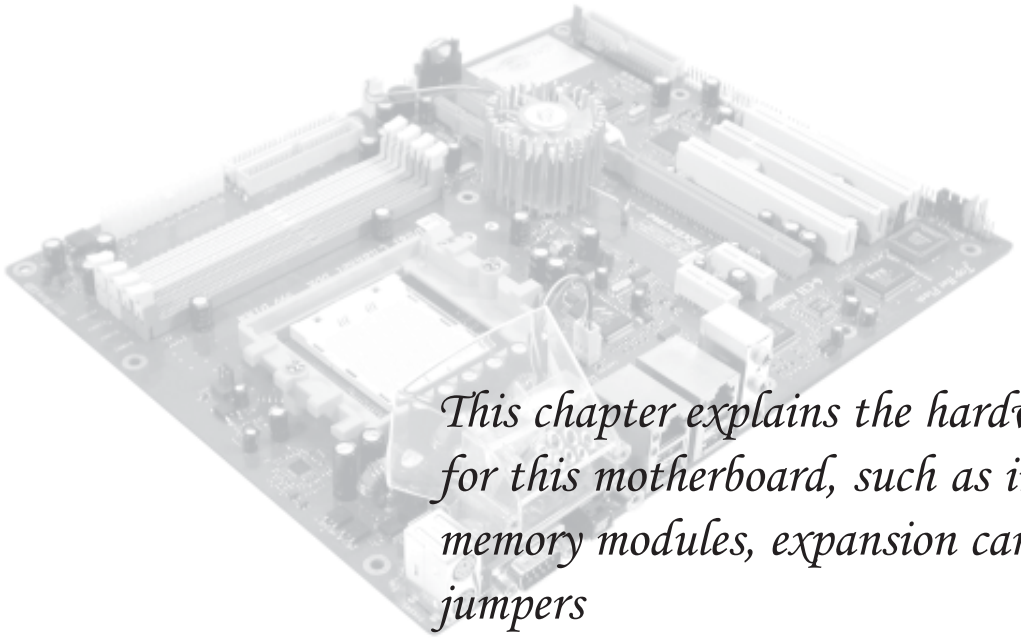
This jumper enables you to prevent the BIOS from being updated (flashed).

1-2: DISABLE (Default)

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 Gigabit tranfer rate.
3. ***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.
4. ***Line in jack***
   This jack connects a tape player or other audio sources. In 6-channel mode, the function of this jack becomes Rear Speaker Out.
5. ***Line out jack***
   This jack connects a headphone or a speaker. In 6-channel mode, the function of this jack becomes Front Speaker Out.
6. ***Microphone jack***
   This jack connects a microphone. In 6-channel mode, the function of this jack becomes Basss/Center Speaker Out.
7. ***USB 2.0 ports 3 and 4***
   These Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
8. ***USB 2.0 ports 1 and 2***
   These Universal Serial Bus (USB) ports are available for connecting USB 2.0.
9. ***Coaxial S/PDIF output port***
   This jack connects to external digital audio output devices.
10. ***Optical S/PDIF output port***
    This jack connects to external digital audio output devices
11. ***Serial port***
    This 9-pin COM1 port is for serial devices.
12. ***PS/2 keyboard port***
    This 6-pin connector is for connecting PS/2 keyboard.



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

Reference

2.1 Installing the CPU

1. Angling the rod to 65-degree may feel tight, continue to pull the rod to 90-degree angle.
2. Position the CPU above the socket such that its notched or marked corner matches the socket corner near the base of the lever, while making sure that the CPU is parallel to the socket. Then insert the CPU into the socket.

Warning: If the CPU does not fit, please change the insert orientation. Do not force the CPU into the socket.

3. Close the socket by lowering and locking the lever.

2.2 Installing the CPU cooling FAN

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

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

Warning: We recommend that you apply the thermal tape to provide better heat conduction between your CPU and cooling fan.

2.3 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 on to the edges of the DIMM.

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	HYS64D16301GU-5-B
	NANYA	NT128D64SH4B1G-5T
256MB	Infineon	HYS64D32300GU-5-B
	Infineon	HYS64D32300HU-5-C
	Micron	MT16VDDT3264AG-403B2
	Micron	MT8VDDT3264AG-40BC4
	NANYA	NT256D64S88B1G-5T
	SAMSUNG	M368L3223DTM-CC4
512MB	Infineon	HYS64D64320HU-5-C
	SAMSUNG	M368L6423ETM-CCC
	NANYA	NT512D64S8HB1G-5T

Table B: Unbuffered DIMM Support for 939-pin

Data Bus	Chip Selects				Maximum DRAM Speed	
	MEMCS_1L_L*	MEMCS_2H_L*	MEMCS_2L_L*	MEMCS_2H_L*	1T	2T
64-bits	Single rank	N/A	N/A	N/A	DDR400	DDR400
	Double rank	N/A	N/A	N/A	DDR400	DDR400
	N/A	N/A	Single rank	N/A	DDR400	DDR400
	N/A	N/A	Double rank	N/A	DDR400	DDR400
	Single rank	N/A	Single rank	N/A	DDR333	DDR400
	Single rank	N/A	Double rank	N/A	DDR200	DDR400
	Double rank	N/A	Single rank	N/A	DDR200	DDR400
	Double rank	N/A	Double rank	N/A	DDR200	DDR333
128-bits	Single rank	Single rank	N/A	N/A	DDR400	DDR400
	Double rank	Double rank	N/A	N/A	DDR400	DDR400
	N/A	N/A	Single rank	Single rank	DDR400	DDR400
	N/A	N/A	Double rank	Double rank	DDR400	DDR400
	Single rank	Single rank	Single rank	Single rank	DDR333	DDR400
	Single rank	Single rank	Double rank	Double rank	DDR200	DDR400
	Double rank	Double rank	Single rank	Single rank	DDR200	DDR400
	Double rank	Double rank	Double rank	Double rank	DDR200	DDR333

Note for "*": Memory types must be set to values consistent with system hardware.

Table C: Recommended dual-channel DDR configurations

DDR1	DDR2	DDR3	DDR4	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. Please note that those types not in the **Table B** will not boot up.
3. The KN1 Extreme doesn't support three memory modules. If three memory modules are inserted, the system may boot but not function normally.

2.4 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.

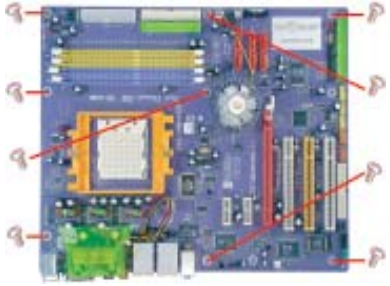
IDE connector

FDD connector

SATA connector

2.5 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.

2.6 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

2.7 Installing Expansion cards

1. Remove the slot covers from the case where you will be installing the expansion cards.
2. Install your graphics card in the proper slot if your motherboard does not have integrated graphics.
3. Press the card firmly into the slot
4. Secure the card with the screw from step 1.
5. Install other expansion cards using the same procedure.

Graphics card

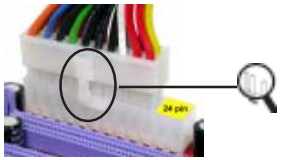
PCI card

2.8 Connecting the Power supply cable

The ATX1 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.**



Users please note that when installing 20-pin power cable, the latche of power cable clings to the left side of the ATX1 connector latch.

20-pin power cable

Users please note that when installing 24-pin power cable, the latch of power cable connector clings to the right side of the ATX1 connector latch.

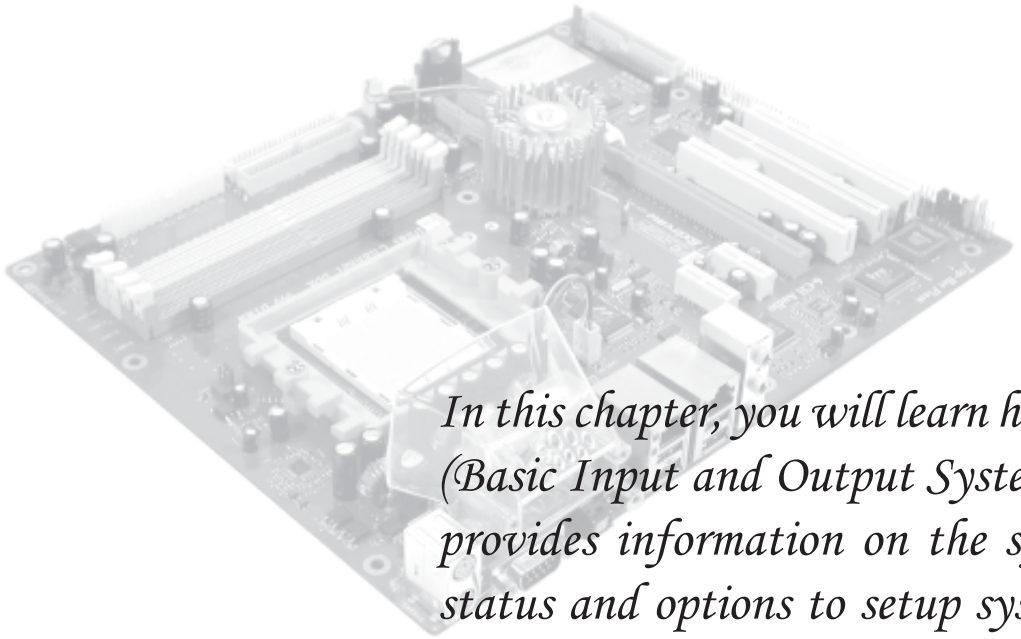
24-pin power cable

Users please note that when installing 4-pin power cable, the latches of power cable and the ATX12 match perfectly.

4-pin ATX power connector

2.9 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.

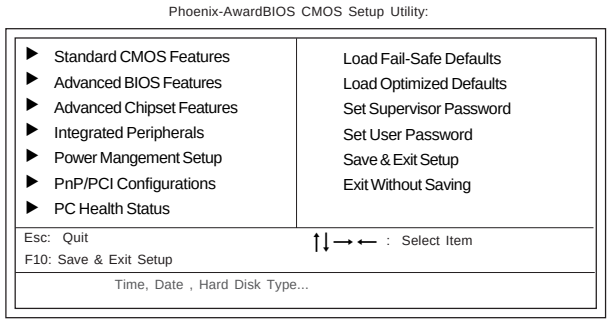
Reference

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:

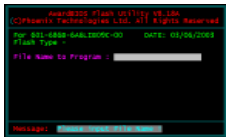


3.2 Updating and Recovering the BIOS

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 could attempt to 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 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.

3.2-2 Using ECS Top-Hat Flash to recover your BIOS

The ECS Top-Hat Flash kit allow you to restore BIOS from ECS website (www.ecs.com.tw) or ECS support CD, in case you current BIOS on the motherboard or get corrupted, please follow the procedures below to recover your BIOS.

1. Please find the BIOS ROM located on your motherboard. (Figure A)
2. Find the cut edge corner on the Flash ROM. (Figure B)
3. Find the cute edge corner on the Top Hat Flash. (Figure C)
4. Orient the cut edge Top Hat Flash to BIOS ROM's and press the flash ROM into the lower socket of Top Hat Flash. (Figure D & E)
5. Then, power on your computer.


Figure A


Figure B


Figure C


Figure D


Figure E

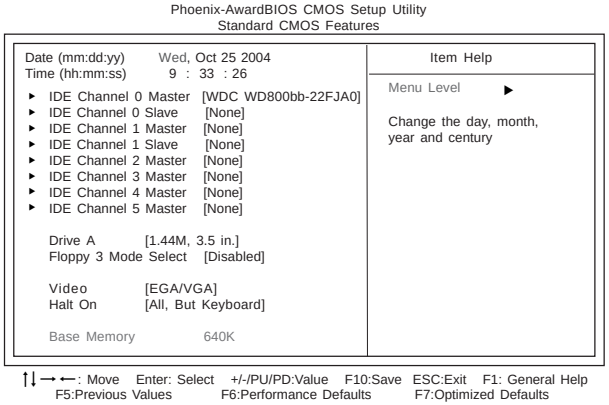
6. After the computer boots up, remove the Top Hat Flash.
7. Download the BIOS file from ECS web site (www.ecs.com.tw) or ECS support CD and use Flash Utility to reflash the original Flash ROM.
8. You can choose either AWARD Flash utility in DOS mode or ECS "EZ Flash Utility" in windows to reflash the BIOS.

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.



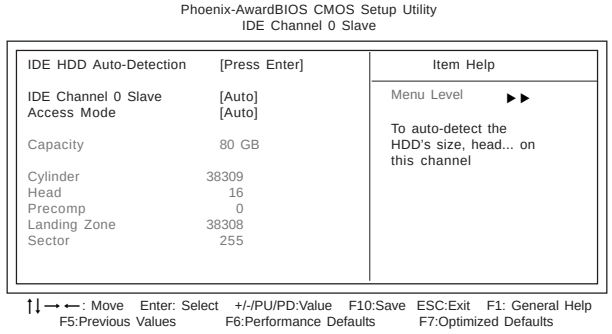
Date and Time

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

▶IDE Devices [None]

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

Press <Enter> to display the IDE submenu:



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 0/1/2/3/4/5 Master & IDE Channle 0/1 Slave

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.

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

Access Mode

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

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

Drive A [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.

Floppy 3 Mode Select [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]

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, But Keyboard]

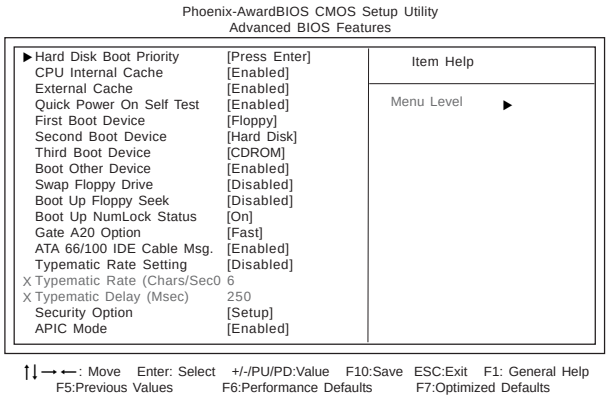
This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

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.

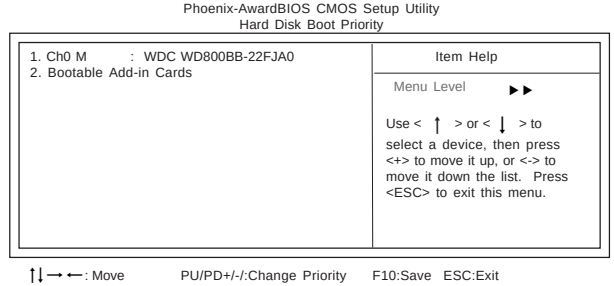
3.3-2 Advanced BIOS Features

This option defines advanced information about your system.



▶Hard Disk Boot Priority

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



CPU Internal Cache (Enabled)

All processors that can be installed in this motherboard use CPU internal cache memory to improve performance. Leave this item at the default value for better performance.

External Cache (Enabled)

Users can enable this item to improve the system performance. Leave this item at the default value for better performance.

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.

Swap Floppy Drive [Disabled]

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

Boot Up Floppy Seek [Disabled]

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy 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 precessors. Leave this item at the default value.

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.

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 > 64MB [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.

Full Screen LOGO Show (Enabled)

Enable or disable the full screen logo during boot-up.

Small Logo (EPA) Show [Disabled]

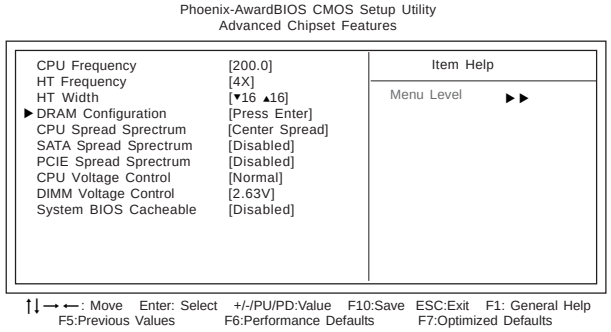
Enables or disables the display of the EPA logo during boot-up.

Summary Screen Show (Enabled)

This item determines whether the summary system information will be showed during boot-up.

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.



CPU Frequency (200.0)

This item enables users to manually over-clock the CPU frequency, ranging from 200.0 to 209.5.

HT Frequency (4x)

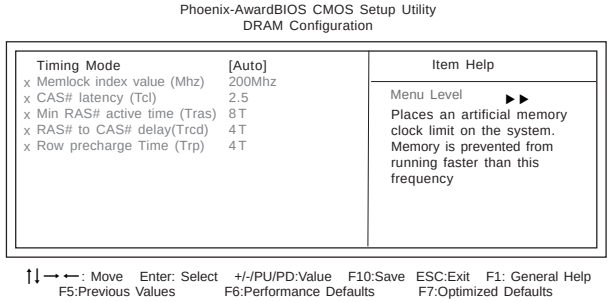
This item enables users to manually set up the HyperTransport frequency, ranging from Auto, 1x, to 5x.

HT Width (▼16 ▲16)

This item enables users to manually set up the HyperTransport width, width ranging from 8 down 8 up to 16 down 16 up.

▶ DRAM Configuration (Press Enter)

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



Timing Mode (Auto)

This item enables you to specify the DRAM timing mode to be configured automatically or manually.

Memclock index value (Mhz) (200Mhz)

When DDR Timing Setting by is set to Manual, use this item to set the DRAM frequency.

CAS# latency (Tcl) (2.5)

This item determines the operation of DDR SDRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

Min RAS# active time (Tras) (8T)

This item specifies the minimus RAS# active time.

RAS# to CAS# delay (Trcd) (4T)

This item specifies the RAS# to CAS# delay to Rd/Wr command to the same bank.

Row Precharge Time (Trp) (4T)

This item specifies the Row precharge to Active or Auto-Refresh of the same bank.

CPU Spread Spectrum (Center Spread)

This item, when enabled, can significantly reduce the EMI (Electromagnetic Interference) generated by the CPU.

SATA Spread Spectrum (Disabled)

This item, when enabled, can significantly reduce the EMI (Electromagnetic Interference) generated by the SATA.

PCIE Spread Spectrum (Disabled)

This item, when enabled, can significantly reduce the EMI (Electromagnetic Interference) generated by the PCIE.

CPU Voltage Control (Normal)

This item enables users to tune up the CPU voltage manually, ranging from Normal, +50mV, +97mV, +146mV, +192mV, +230mV, +282mV, to +328mV.

DIMM Voltage Control (2.63V)

This item enables users to tune up the DDR DIMM voltage manually, ranging from 2.55V, 2.63V, 2.71V, 2.79V, 2.87V, 2.95V, 3.03V to 3.10V.

System BIOS Cacheable (Disabled)

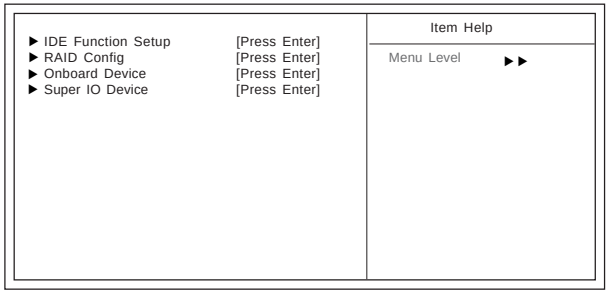
This item enables users to enable or disable the system BIOS cache.

Press <Esc> to return to the Advanced Chipset Features page.

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

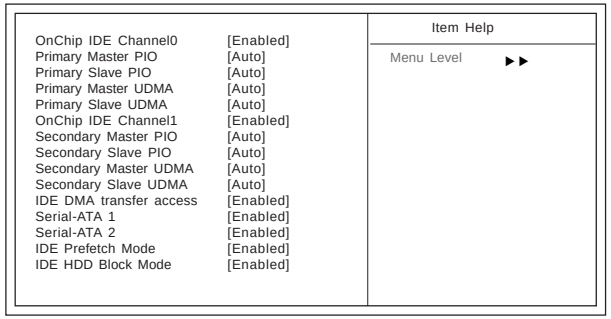


↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values F6:Performance Defaults F7:Optimized Defaults

▶ IDE Function Setup (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
IDE Function Setup



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

On-Chip IDE Channel 0/1 (Enabled)

Use these items to enable or disable the PCI IDE channels that are integrated on the motherboard.

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 UltraDMA (Auto)

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

IDE DMA transfer access (Enabled)

This item allows you to enable the transfer access of the IDE DMA then burst onto the PCI bus and nonburstable transactions do not.

Serial-ATA 1/2 (Enabled)

This item allows you to enable or disable the onboard SATA 1/2 devices.

IDE Prefetch Mode (Enabled)

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

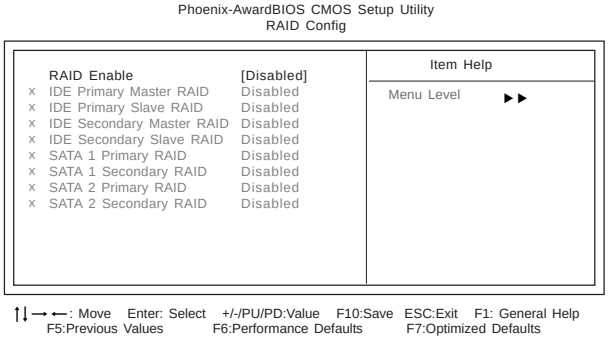
IDE HDD Block Mode (Enabled)

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 number of block read/write per sector the drive can support.

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

▶ RAID Config (Press Enter)

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



RAID Enable (Disabled)

This item allows you to enable or disable the onboard RAID function of RAID supporting devices.

IDE Primary/Secondary Master/Slave RAID (Disabled)

These four items enable or disable the IDE Primary/Secondary Master/Slave RAID.

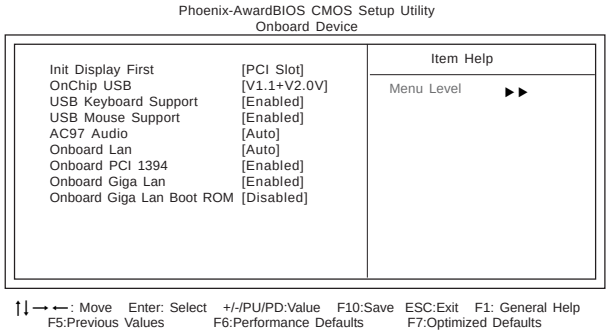
SATA 1/2 Primary/Secondary RAID (Disabled)

These four items enable or disable the SATA1/2 Primary/Secondary RAID.

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

▶ Onboard Device (Press Enter)

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



Init Display First [PCI Slot]

This item allows users to set the initial display device for the system.

Onchip USB (V1.1+V2.0)

This item enables users to enable or disable the onchip USB function, setting it to be USB1.1 or USB2.0 compatible.

USB Keyboard Support (Enabled)

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

USB Mouse Support (Enabled)

Enables 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 (Auto)

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

Onboard LAN (Auto)

Enables or disables the onboard LAN function.

Onboard PCI 1394 (Enabled)

Enables or disables the onboard 1394 function.

Onboard Giga Lan (Enabled)

Enables or disables the onboard Giga Lan function.

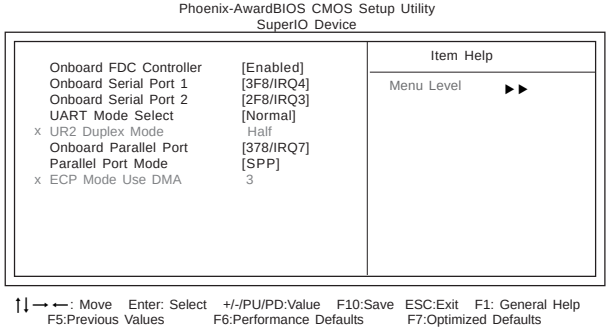
Onboard Giga Lan Boot ROM (Enabled)

Enables or disables the onboard Giga Lan boot rom function.

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

▶ Super IO Device (Press Enter)

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



Onboard FDC Controller (Enabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1/2 (3F8/IRQ4, 2F8/IRQ3)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1/2.

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 (Half)

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.

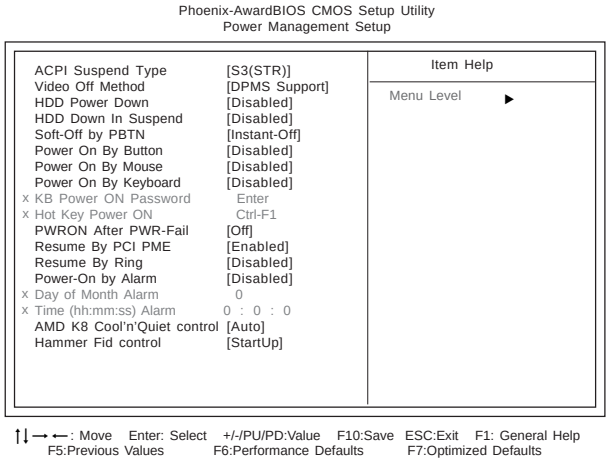
ECP Mode Use DMA (3)

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.

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.



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.

Video Off Method (DPMS Support)

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

HDD Power Down [Disabled]

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

HDD Down In Suspend [Disabled]

This item enable or disable whether the IDE hard drive to be down in suspend mode.

Soft-Off by PBTN (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.

Power On By Button (Enabled)

Enable or disable the function of waking up the system by the power-on button.

Power On By Mouse (Enabled)

Enable or disable the function of waking up the system by the mouse activity.

Power On By Keyboard (Enabled)

Enable or disable the function of waking up the system by the keyboard activity.

KB Power ON Password (Enter)

Use this item to decide whether to enter the password when waking from keyboard.

Hot Key Power ON (Ctrl+F1)

Use this item to allocate the hot key to wake up the system.

PWRON After PWR-Fail (Off)

This item enables your computer to automatically restart or return to its last operating status.

Resume By PCI PME [Enabled]

This item allows users to enable or disable PCI activity to wake up the system from a power saving mode.

Resume By Ring [Disabled]

This item allows users to enable or disable LAN or modem activity to wake up the system from a power saving mode.

Power-On by Alarm [Disabled]

This item allows users to enable or disable the alarm to wake up the system. If set to Enabled, users can specify the specific day of month and the exact time to power up the system.

AMD K8 Cool'n'Quiet control (Auto)

This item helps the system to lower the frequency when CPU idles. When the frequency decreases, the temperature will drop automatically as well.

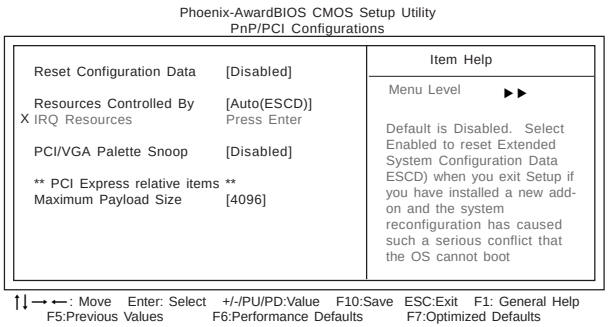
Hammer Fid control [StartUp]

This item allows users to set the CPU fid value manually, ranging from x4 to x21.

Press <Esc> to return to the main BIOS setting 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:



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.

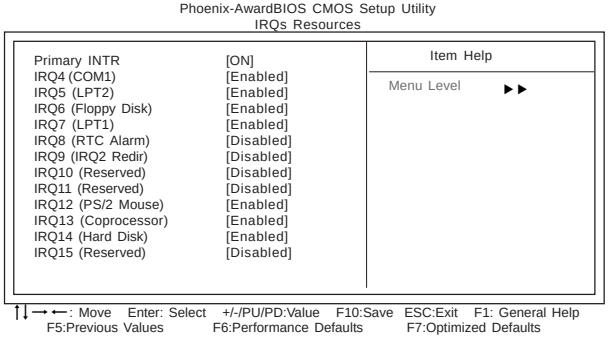
If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources submenu.

IRQ Resources [Press Enter]

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.

▶IRQs Resources (Press Enter)

This screen enables you to set IRQs that will resume the system from a power saving mode.



Set any IRQ to Enabled to allow activity at the IRQ to wake up the system from a power saving mode.

Press <Esc> to return to the IRQ/Event Activity Detect pages

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.

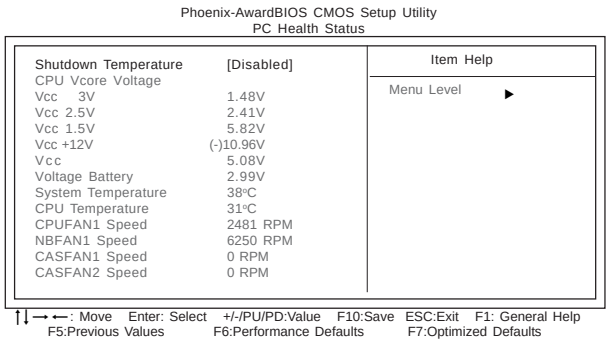
Maximum Payload Size [4096]

This item specifies the maximum payload size for the PCI Express function.

Press <Esc> to return to the main BIOS setting page.

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.



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.

3.3-8 Load Fail-Safe Defaults

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>.

3.3-9 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 doesn't 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 remain the factory BIOS default setting of "Load optimized Defaults" when install Operation System onto your system.

3.3-10 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.

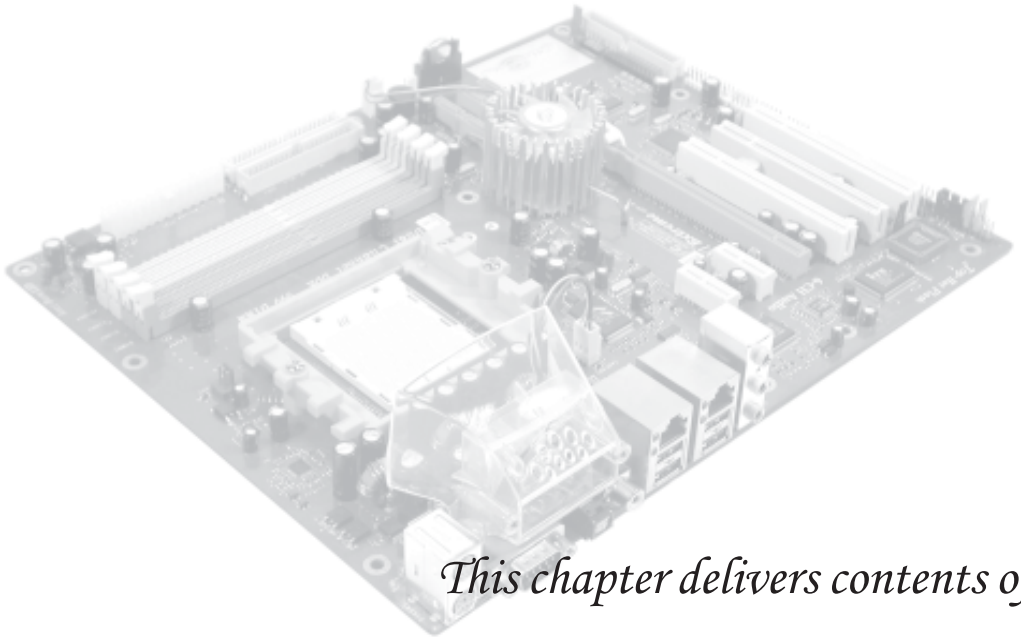
3.3-11 Save & Exit Setup

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.

3.3-12 Exit Without Saving

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

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



This chapter delivers contents of the ECS support CD.

Reference

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.

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

4.2 Running the Software CD

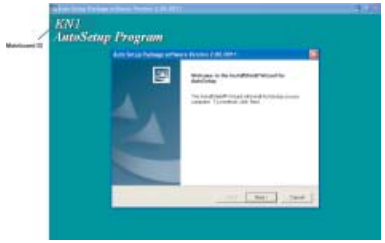
To begin using the software CD, simply insert the CD into your CD-ROM drive. The CD automatically display the multimedia if auto run is enable in your computer.

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 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, 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.

MediaRing Talk - Telephony Software

Go to \UTILITY\MEDIARING EZ NET and run SETUP 331.EXE to install the MediaRing Talk voice modem software for the built-in modem.

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 Plus 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.

NVIDIA nTune

The NVIDIA nTune is the easiest, fastest, and safest performance optimization and monitoring application available for your PC. With NVIDIA nTune your system can automatically adjust to maximum performance settings for intense gaming or will detect that you've inserted a DVD and will set the system to quiet operation. This intelligent application offers the safest way to change bus speeds, memory timings, and even tweak voltages. Changes are made easily within a simple-to-use Windows interface--so you no longer need to make changes to the BIOS or reboot your system.

Résumé des caractéristiques

CPU	• Socket 939 pour processeur AMD Athlon 64/Athlon 64 FX • Interface de CPU HyperTransport de Hautes Performances: • Vitesse de transfert de 2000/1600/1200/800/400 MT/s
Chipset	• Processeur multimédia et de communications (MCP) NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra)
Mémoire	• Architecture mémoire DDR double canal • 4 x sockets DIMM SDRAM DDR, 2.5V, 184 broches prenant en charge jusqu'à 4 Go • Prend en charge les SDRAM DDR sans mémoire tampon DDR400/333/266/200
Options d'extension	• 1 x PCI Express x16 • 2 x PCI Express x1 • 3 x logements PCI
Stockage	• Pris en charge par CK8-04 Ultra - 4 x périphériques Ultra DMA133/100/66 /33 - 4 x périphériques SATA - Configuration RAID 0, RAID 1, RAID 0+1 • Pris en charge par SiS180 - 2 x périphériques Ultra DMA133/100/66 /33 - 2 x périphériques SATA - Configuration RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• Contrôleur IEEE1394a TI TSB43AB22A • Prend en charge 2 ports de câble x IEEE1394a à 100M bits/s, 200M bits/s, et 400M bits/s
Audio	• CODEC audio Realtek ALC655 6 canaux • Conforme aux spécifications AC'97 2,3
LAN Double	• Contrôleur LAN Realtek RTL8100C 10/100 Mbps • Marvell 88E1111 Giga LAN PHY
E/S du panneau arrière	• 1 x clavier PS/2 • 1 x connecteur souris PS/2 • 4 x ports USB • 2 x connecteurs LAN RJ45 • 1 x port Série (COM1) • 2 x sorties SPDIF numériques (Optique & Coaxiale) • 1 x prise Audio (Ports d'entrée de ligne, sortie de ligne, entrée Micro)
Caractéristiques du BIOS	• Award BIOS avec ROM Flash de 4Mb • 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 • 3 x connecteurs IDE • 6 x connecteurs ATA Série • 3 x embases USB 2.0 supportant 6 ports USB supplémentaires • 2 x embases 1394a • 1 x embase SMBus • 1 x embase LPT1 • 1 x embase de commutateur/LED de panneau avant • 1 x embase audio de panneau avant • Embase entrée CD • Connecteurs CPUFAN1/NBFAN1/CASFAN1~2
Facteur de Forme	• Taille ATX • 305mm x 244mm

Zusammenfassung der Merkmale

CPU	• Socket 939 für AMD Athlon 64/Athlon 64 FX CPU • Hochleistungsfähiges HyperTransport CPU-Interface • Transferrate von 2000/1600/1200/800/400 MT/s
Chipsatz	• NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) Media- und Kommunikationsprozessor (MCP)
Arbeitsspeicher	• Dual-Kanal DDR Speicherarchitektur • 4 x 184-Pin, 2.5V, DDR SDRAM DIMM-Sockets unterstützen bis zu 4 GB • Unterstützt ungepufferte DDR400/333/266/200 DDR SDRAM
Erweiter-ungsmöglichkeiten	• 1 x PCI Express x16 • 2 x PCI Express x1 • 3 x PCI Steckplätze
Speicher	• Unterstützt durch CK8-04 Ultra - 4 x Ultra DMA133/100/66/33 Geräte - 4 x SATA Geräte - RAID 0, RAID 1, RAID 0+1 Konfiguration • Unterstützt durch einen SiS180 -2 x Ultra DMA133/100/66/33 Geräte -2 x SATA Geräte -RAID 0, RAID 1, RAID 0+1 Konfiguration

IEEE 1394a	• TI TSB43AB22A IEEE1394a Controller • Unterstützt 2 x IEEE1394a Kabelports mit 100M bits/s, 200M bits/s und 400M bits/s
Audio	• Realtek ALC655 6-Kanal Audio-CODEC • Entspricht AC'97 2.3 Spezifikation
Dual LAN	• Realtek RTL8100C 10/100 Mbps LAN-Controller • Marvell 88E1111 Giga LAN PHY
Rear panel I/O	• 1 x PS/2 Tastatur • 1 x PS/2 Mausanschluss • 4 x USB Anschlüsse • 2 x RJ45 LAN Anschlüsse • 1 x Seriellanschluss (COM1) • 2 x Digital SPDIF- (Optisch & Coaxial) out • 1 x Audiobuchse (Line-in, Line-out und Mic-in Ports)
BIOS Merkmale	• Award BIOS mit 4Mb 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 Stecker • 1 x Floppylaufwerkanschluss, unterstützt 360K ~ 2.88M Bytes, 3 Modus Festplatten oder LS120 • 3 x IDE Anschlüsse • 6 x Seriell ATA Anschluss • 3 x USB 2.0 Header, unterstützt zusätzlich 6 USB-Ports • 2 x 1394a Header • 1 x SMBus Header • 1 x LPT1 Header • 1 x Schalter in der Frontabdeckung/LED-Header • 1 x Audioanschluss in der Frontabdeckung • CD-Eingangsanschluss • CPUFAN1/NBFAN1/CASFAN1~2-Stecker
Formfaktor	• ATX-Größe • 305mm x 244mm

Indice delle caratteristiche

CPU	• Presa 939 per CPU AMD Athlon 64/Athlon 64 FX • Interfaccia CPU HyperTransport a elevate prestazioni • Velocità di trasferimento di 2000/1600/1200/800/400 MT/s
Chipset	• Processore MCP per media e comunicazioni NVIDIA® Crush K8-04 Ultra (CK8-04 Ultra)
Memoria	• Dual-channel DDR memory architecture • 4 prese DIMM per DDR SDRAM da 2,5 V a 184 pin con supporto di fino a 4 GB • Supporto di DDR SDRAM DDR400/333/266/200 senza buffer
Opzioni d'espansione	• 1 x PCI Express x16 • 2 x PCI Express x1 • 3 x slots PCI
Deposito	• Supportata da CK8-04 Ultra - 4 x dispositivi Ultra DMA133/100/66/33 - 4 x dispositivi SATA -configurazione RAID 0, RAID 1, RAID 0+1 • Supportato da SiS180 - 2 x dispositivi Ultra DMA133/100/66/33 - 2 x dispositivi SATA -configurazione RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• Controller IEEE 1394a TI TSB43AB22A • Supporto di 2 porte per cavo IEEE1394a a 100M bit/s, 200M bit/s e 400M bit/s
Audio	• CODEC audio a 6 canali Realtek ALC655 • Conforme alla specifica AC'97 2.3
Doppia LAN	• Controller LAN 10/100 Mbps Realtek RTL8100C • PHY LAN Giga Marvell 88E1111
Pannello posteriore I/O	• 1 x porta per tastiera PS/2 • 1 x connettore mouse PS/2 • 4 x porte USB • 2 x connettori RJ45 LAN • 1 x porta Seriale (COM1) • 2 uscite SPDIF (ottica e coassiale) digitali • 1 jack Audio (porte Line-in, Line-out e Mic-in)
Caratteristic-he BIOS	• BIOS Award con 4Mb 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 x connettore di alimentazione 24-pin ATX e connettore 4-pin da 12 V • 1 x connettore floppy - supporta 360K ~ 2,88M Byte, 3 Mode FDDs o LS120 • 3 x connettori IDE • 6 x connettori Seriali ATA • 3 x supporti header USB 2.0 con 6 porte USB supplementari • 2 x 1394a header • 1 x SMBus header • 1 x LPT1 header • 1 x interruttore del pannello frontale /LED header • 1 x pannello frontale header audio • CD in header • Connettori CPUFAN1/NBFAN1/CASFAN1~2
Form Factor	• Dimensione -ATX • 305mm x 244mm

Resumen de Características

CPU	• Socket 939 para CPU AMD Athlon 64/Athlon 64 FX • Interfaz de CPU HyperTransport de alto rendimiento • Índice de transferencia de 2000/1600/1200/800/400 MT/s
Chipset	• Procesador de media y comunicaciones (MCP) NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra)
Memoria	• Arquitectura de memoria DDR Canal Dual • Zócalos DDR SDRAM DIMM de 4 x 184-pin, 2.5V, soportan hasta 4 GB • Soporte de DDR SDRAM DDR400/333/266/200 sin buffer
Opciones de expansión	• 1 x PCI Express x16 • 2 x PCI Express x1 • 3 x ranuras PCI
Almacenaje	• Soportado por CK8-04 Ultra - 4 x dispositivos Ultra DMA133/100/66/33 - 4 x dispositivos SATA - Configuración RAID 0 , RAID 1, RAID 0+1 • Soportado por SiS180 - 2 x dispositivos Ultra DMA133/100/66/33 - 2 x dispositivos SATA - Configuración RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• Controlador TI TSB43AB22A IEEE1394a • Soporta 2 x puertos de cable IEEE1394a en 100M bits/s, 200M bits/s, y 400M bits/s
Audio	• CODEC de audio de 6 canales de Realtek ALC655 • Conforme con la especificación AC'97 2.3
Dual LAN	• Controlador LAN de Realtek RTL8100C 10/100 Mbps • Marvell 88E1111 Giga LAN PHY
I/O del panel trasero	• 1 x teclado PS/2 • 1 x conector de ratón PS/2 • 4 x puertos USB • 2 x conectores RJ45 LAN • 1 x puerto Serial (COM1) • 2 x salidas SPDIF Digital (Óptico & Coaxial) • 1 x clavija de Audio (puertos Line-in, Line-out, y Mic-in)
Característi-cas de BIOS	• Award BIOS con 4Mb 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 • 3 x conectores IDE • 6 x conectores Serial ATA • 3 x cabezales USB 2.0 soporta 6 puertos USB adicionales • 2 x cabezales 1394a • 1 x cabezal SMBus • 1 x cabezal LPT1 • 1 x interruptor del panel frontal/cabezal LED • 1 x cabezal de audio del panel frontal • Cabezal entrada de CD • Conectores CPUFAN1/NBFAN1/CASFAN1~2
Factor de Forma	• Tamaño de ATX • 305mm x 244mm

Sumário de Características

CPU	• Ficha 939 para AMD Athlon 64/Athlon 64 FX CPU • Interface de CPU de Elevada Performance e HyperTransport • Taxa de transferência de 2000/1600/1200/800/400 MT/s
Chipset	• Média NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) e processador de comunicações (MCP)
Memória	• Arquitectura de memória DDR bicanal • 4 x 184-pin, 2.5V, suporte para fichas DDR SDRAM DIMM até 4 GB • Suporta DDR400/333/266/200 DDR SDRAM sem buffers
Opções de expansão	• 1 x PCI Express x 16 • 2 x PCI Express x 1 • 3 x Ranhuras PCI
Armazenamento	• Suportado por CK8-04 Ultra - 4 x Dispositivos Ultra DMA133/100/66/33 - 4 x Dispositivos SATA - Configuração RAID 0, RAID 1, RAID 0+1 • Suportado por SiS180 - 2 x Dispositivos ultra DMA133/100/66/33 - 2 x Dispositivos SATA - Configuração RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• Controlador TI TSB43AB22A IEEE1394a • Suporta portas com cabo 2 x IEEE1394a a 100M bits/s, 200M bits/s, e 400M bits/s
Áudio	• CODEC áudio com 6 canais ALC655 Realtek • Cumpre com a especificação AC'97 2.3
LAN duplo	• Controlador LAN RTL8100C 10/100 Mbps Realtek • Marvell 88E1111 Giga LAN PHY
Painel traseiro I/O	• 1 x Teclado PS/2 • 1 x conector de rato PS/2 • 4 x portas USB • 2 x conectores RJ45 LAN • 1 x porta de Série (COM1) • Saída 2 x Digital SPDIF (Óptica & Coaxial) • Fichas Áudio 1 x (Entrada de linha, Saída de linha, e portas Mic-in)
Características BIOS	• Award BIOS com 4Mb 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 • 3 x Conectores IDE • 6 x Conectores de Série ATA • 3 x Colector USB 2.0 suporta 6 portas USB adicionais • 2 x Colector 1394a • 1 x Colector SMBus • 1 x Colector LPT1 • 1 x Colector com interruptor/LED do painel traseiro • 1 x Colector de áudio do painel traseiro • Colector com entrada para CD • Conectores CPUFAN1/NBFAN1/CASFAN1~2
Coeficiente de Forma	• Tamanho ATX • 305mm x 244mm

特徴概要

プロセッサ	• AMD Athlon 64/Athlon 64 FX CPUのSocket 939を搭載 • 高性能HyperTransport CPU インターフェースに対応 • 2000/1600/1200/800/400 MT/s転送率を実現
チップセット	• NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra)メディアおよび通信プロセッサ(MCP)
メモリ	• デュアルチャネルDDRメモリのアーキテクチャ • 184ピン2.5V仕様のDDR SDRAM DIMM ソケットを4つ搭載し、それに最大4 GBまでのメモリを装着可能 • DDR400/333/266/200 非バッファDDR SDRAMに対応
拡張スロット	• 1つのPCI Express x16スロット • 2つのPCI Express x1スロット • 3つのPCI スロット
保存装置	• CK8-04 Ultra チップセットがサポートするのは - 4つのUltra DMA133/100/66/33 デバイス - 4つのSATA デバイス - RAID 0、RAID 1、および RAID 0+1の 構成 • SiS180がサポートするのは - 2つのUltra DMA133/100/66/33 デバイス - 2つのSATA デバイス - RAID 0、RAID 1、および RAID 0+1の 構成

IEEE 1394a	• TI TSB43AB22A IEEE1394a コントローラ • IEEE1394a ケーブルポートが2つで、100M bits/s, 200M bits/s, および400M bits/sの転送率に対応
オーディオ	• Realtek ALC655 6チャネルオーディオCODEC • AC'97 2.3 規格に準拠
デュアルLAN	• Realtek RTL8100C 10/100 Mbps LAN コントローラ • Marvell 88E1111 Giga LAN PHY
背面パネル入出力	• PS/2 コネクタが1つ • PS/2 マウスコネクタが1つ • USBポートが4つ • RJ45 LAN コネクタが2つ • シリアルポート(COM1)が1つ • デジタルSPDIF (光ファイバ式と同軸ケーブル式に対応) 出力が2つ • オーディオジャック(ライン入力、ライン出力、およびマイクロホン入力のポート)が1式
BIOSの諸機能	• 4 Mb 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 • 3つのIDEコネクタ • 6つのシリアルATAコネクタ • 3つのUSB 2.0ヘッダーでさらなる6つのUSBポートを増設可能 • 2つの1394a ヘッダー • 1 つのSMBusヘッダー • 1つのLPT1 ヘッダー • 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 • CD入力ヘッダー • CPUFAN1/NBFAN1/CASFAN1~2 コネクタ
寸法	• ATXサイズ • 305mm x 244mm

특성 요약

CPU	• AMD 애슬론 64/애슬론 64 FX CPU 용 소켓 939 • 고 성능 HyperTransport CPU 인터페이스 • 전송 속도 2000/1600/1200/800/400 MT/s
칩셋	• NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) 미디어 및 커뮤니케이션 프로세서 (MCP)
메모리	• 듀얼 채널 DDR 메모리 아키텍처 • 4 x 184 핀, 2.5V, DDR SDRAM DIMM 소켓이 최대 용량 4 GB 지원 • DDR400/333/266/200 unbuffered DDR SDRAM 지원
확장 옵션	• 1 x PCI 익스프레스 x16 • 2 x PCI 익스프레스 x1 • 3 x PCI 슬롯
저장	• CK8-04 Ultra 지원 - 4 x Ultra DMA133/100/66/33 장치 - 4 x SATA 장치 -RAID 0, RAID 1, RAID 0+1 구성 • SiS180 지원 -2 x Ultra DMA133/100/66/33 장치 -2 x SATA 장치 -RAID 0, RAID 1, RAID 0+1 구성

IEEE 1394a	• TI TSB43AB22A IEEE1394a 컨트롤러 • 2 x IEEE1394a 케이블 포트, 100M bits/s, 200M bits/s, 400M bits/s 지원
오디오	• Realtek ALC655 6 채널 오디오 코덱 • AC'97 2.3 사양 부합
듀얼 랜	• Realtek RTL8100C 10/100 Mbps LAN 컨트롤러 • Marvell 88E1111 Giga LAN PHY
뒷 패널 I/O	• 1 x PS/2 키보드 • 1 x PS/2 마우스 커넥터 • 4 x USB 포트 • 2 x RJ45 LAN 커넥터 • 1 x 시리얼 포트 (COM1) • 2 x 디지털 SPDIF (광학 및 동축) 출력 • 1 x 오디오 잭 (라인 입력, 라인 출력, 마이크 입력 포트)
BIOS 특성	• 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 • 3 x IDE 커넥터 • 6 x 시리얼 ATA 커넥터 • 3 x USB 2.0 헤더, 추가적으로 6 개의 USB 포트 지원s • 2 x 1394a 헤더 • 1 x SMBus 헤더 • 1 x LPT1 헤더 • 1 x 앞 패널 스위치/LED 헤더 • 1 x 앞 패널 오디오 헤더 • CD 입력 헤더 • CPUFAN1/NBFAN1/CASFAN1~2 커넥터
규격	• ATX 사이즈 • 305mm x 244mm

功能摘要

中央處理器	• 配備有 AMD Athlon 64/Athlon 64 FX CPU的Socket 939 • 支援高效能HyperTransport CPU 介面 • 提供高達2000/1600/1200/800/400 MT/s的資料傳輸率
晶片組	• NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) 媒體及通信處理器(MCP)
記憶體	• 雙通道DDR 記憶體架構 • 4 個184針 2.5V的DDR SDRAM DIMM 插槽，最大安裝容量達4 GB • 支援 DDR400/333/266/200 無緩衝DDR SDRAM
擴充槽	• 1個PCI Express x16槽 • 2個PCI Express x1槽 • 3個PCI槽
儲存裝置	• 以CK8-04 Ultra提供支援 – 4個Ultra DMA133/100/66/33 裝置 – 4個SATA 裝置 – 支援RAID 0 、RAID 1、及 RAID 0+1 設定 • 以 SiSI80提供支援 – 2個Ultra DMA133/100/66/33 裝置 – 2個 SATA 裝置 – 支援RAID 0、RAID 1、及 RAID 0+1 設定

IEEE 1394a	• TI TSB43AB22A IEEE1394a 控制器 • 支援2個IEEE1394a 接線埠，提供100M bits/s、200M bits/s、及400M bits/s的傳輸率
音訊	• Realtek ALC655 6聲道音訊CODEC • 相容於 AC' 97 2.3 規格
雙LAN	• Realtek RTL8100C 10/100 Mbps LAN 控制器 • Marvell 88E1111 Giga LAN PHY
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 • 2個RJ45 LAN 插孔 • 1個序列埠(COM1) • 2 個數位SPDIF (光纖及同軸)輸出埠 • 1 個音訊插孔(線級輸入、線級輸出、及麥克風插孔)
BIOS功能	• 採4Mb 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 • 3個IDE連接器 • 6個序列ATA 連接器 • 3個USB 2.0接頭，可支援6個額外的USB埠 • 2個1394a接頭 • 1個SMBus接頭 • 1個LPT1接頭 • 1個前面板開關及1個LED 接頭 • 1個前面板音訊接頭 • CD音源輸入接頭 • CPUFAN1/NBFAN1/CASFAN1~2連接器
主機板尺寸	• ATX 尺寸 • 305mm x 244mm

功能摘要

CPU	• 用于AMD Athlon 64/Athlon 64 FX CPU 的 Socket 939 插座 • 高性能 HyperTransport CPU 接口： • 传输速率 2000/1600/1200/800/400 MT/s
芯片组	• NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) 媒体和通讯处理器 (MCP)
内存	• 双通道 DDR 内存架构 • 4 个 184 线 2.5V，DDR SDRAM DIMM 插槽，内存最大可支持 4 GB • 支持 DDR400/333/266/200非缓冲 DDR SDRAM
扩展选项	• 1 个 PCI Express x16 • 2 个 PCI Express x1 • 3 个 PCI 插槽
存储	• 支持 CK8-04 Ultra - 4 个 Ultra DMA133/100/66/33 设备 - 4 个 SATA 设备 - RAID 0, RAID 1, RAID 0+1 配置 • 支持 SiS180 - 2 个 Ultra DMA133/100/66/33 设备 - 2 个 SATA 设备 - RAID 0, RAID 1, RAID 0+1 配置

IEEE 1394a	• TI TSB43AB22A IEEE1394a 控制器 • 支持 2 x IEEE1394a 电缆端口（在 100M bits/s、200M bits/s 和 400M bits/s 下）
音频	• Realtek ALC655 6 声道音频编解码器 • 兼容 AC’97 v2.3 规格
双 LAN	• Realtek RTL8100C 10/100 Mbps LAN 控制器 • Marvell 88E1111 Giga LAN PHY
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 • 2 个 RJ45 LAN 接口 • 1 个串口 (COM1) • 2 个数字量 SPDIF（光纤和同轴）输出 • 1 个音频插孔（线入、线出、麦克风入端口）
BIOS 功能	• Award BIOS (4Mb 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 • 3 个 IDE 接口 • 6 个串行 ATA 接口 • 3 个 USB 2.0 接头，支持另外 6 个 USB 端口 • 2 个 1394a 接头 • 1 个 SMBus 接头 • 1 个 LPT1 接头 • 1 个前面板开关/LED 接头 • 1 个前面板音频接头 • CD 输入接头 • CPUFAN1/NBFAN1/CASFAN1~2 接口
外形	• ATX 尺寸 • 305mm x 244mm

Характеристики

CPU	• Разъем 939 для процессоров AMD Athlon 64/Athlon 64 FX CPU • Интерфейс HyperTransport CPU с высокой пропускной способностью • Скорость передачи данных 2000/1600/1200/800/400 MT/сек
Чипсет	• Медиа-коммуникационный процессор (MCP) NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra)
Память	• Архитектура памяти Dual-channel DDR • Четыре 184-штырьковых сокета 2.5V DDR DIMM с поддержкой до 4 ГБ памяти • Поддержка DDR400/333/266/200 и небуферизуемой памяти DDR SDRAM
Возможности расширения	• 1 слот PCI Express x16 • 2 слот PCI Express x1 • 3 слота PCI
Массовая память	• Поддерживаемая CK8-04 Ultra - 4 устройства Ultra DMA133/100/66/33 - 4 устройства SATA - Конфигураци RAID 0 , RAID 1, RAID 0+1 • Поддерживаемая SiS180 - 2 устройства Ultra DMA133/100/66/33 - 2 устройства SATA - Конфигураци RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• Контроллер TI TSB43AB22A IEEE1394a • Поддержка двух портов IEEE1394a (100M бит/с, 200M бит/с и 400M бит/с)
Аудио	• 6-канальный аудио CODEC Realtek ALC655 • Совместимость с технологией AC'97 2.3
Dual LAN	• Контроллер Realtek RTL8100C 10/100 Mbps LAN • Marvell 88E1111 Giga LAN PHY
Гнезда входа/ выхода на тыльной панели	• 1 гнездо клавиатуры PS/2 • 1 гнездо мыши PS/2 • 4 порта USB • 2 гнезда RJ45 LAN • 1 серийный порт (COM1) • 2 гнезда выхода Digital SPDIF (оптическое и коаксиальное) • 1 разъем аудио (порты входа, выхода и микрофона)
Особенности BIOS'a	• Award BIOS с 4Мб 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 • 3 гнезда IDE • 6 гнезд Serial ATA • 3 гнезда USB 2.0 с поддержкой 6 дополнительных портов USB • 2 гнездо 1394a • 1 гнездо SMBus • 1 гнездо LPT1 • 1 гнездо выключателя/индикатора передней панели • 1 аудио гнездо передней панели • Входное гнездо CD • Разъемы вентиляторов CPU (1), северного моста (1) и CASFAN (1~2)
Габариты	• Стандарт ATX • 305мм x 244мм

Cechy

CPU	• Gniazdo 939 dla procesorów AMD Athlon 64/Athlon 64 FX CPU • Złącze szybkiego transpotu danych HyperTransport CPU Interface • Szybkość przesyłania danych 2000/1600/1200/800/400 MT/s
Chipset	• Procesor Media & Communications (MCP) NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra)
Pamięć	• Architektura pamięci dwukanałowej DDR • 4 184-nóżkowe złącza 2.5V, DDR SDRAM DIMM obsługujące do 4 GB pamięci • Obsługa pamięci typu DDR400/333/266/200 i niebuforowanej pamięci DDR SDRAM
Możliwości rozbudowy	• 1 złącze PCI Express x16 • 2 złącza PCI Express x1 • 3 złącza PCI
Urządzenia pamięc masowej	• Obsługiwane przez CK8-04 Ultra - 4 urządzenia Ultra DMA133/100/66 /33 - 4 urządzenia SATA - Konfiguracje RAID 0, RAID 1, RAID 0+1 • Obsługiwane przez SiS180 - 2 urządzenia Ultra DMA133/100/66 /33 - 2 urządzenia SATA - Konfiguracje RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• Kontroler TI TSB43AB22A IEEE1394a • Obsługuje 2 złącza IEEE1394a o szybkości 100M bit/s, 200M bit/s i 400M bit/s
Audio	• 6-kanałowy audio CODEC Realtek ALC655 • Zgodne z AC'97 2.3
Dual LAN	• Kontroler LAN Realtek RTL8100C 10/100 Mbps • Marvell 88E1111 Giga LAN PHY
Gniazda We/ Wy na tylnym panelu	• 1 gniazdo klawiatury PS/2 • 1 gniazdo myszy PS/2 • 4 gniazda USB • 2 złącza RJ45 LAN • 1 port szeregowy (COM1) • 2 gniazda Digital SPDIF (wyjście optyczne i koaksialne) • 1 złącze audio (gniazda wejściowe i wyjściowe audio, gniazdo wejściowe mikrofonowe)
Cechy BIOSu	• Award BIOS, zaopatrzony w 4Mb 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 • 3 złącza IDE • 6 złącz Serial ATA • 3 złącza USB 2.0 obsługujące 6 dodatkowe porty USB • 2 złącze 1394a • 1 złącze SMBus • 1 złącze LPT1 • 1 złącze włącznika / wskaźnika LED na panelu przednim • 1 gniazdo audio na panelu przednim • Gniazdo wejściowe CD • Gniazda wiatraków CPU (1), mostka północnego (1) i gniazdo CASFAN (1~2)
Wymiary	• Standard ATX • 305mm x 244mm

Souhrn vlastností

CPU	• Patice 939 pro procesory AMD Athlon 64/Athlon 64 FX • Vysoce výkonné rozhraní HyperTransport CPU • Přenosové rychlosti 2000/1600/1200/800/400 MT/s
Čipová sada	• Procesor pro ovládání médií a komunikaci NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) (MCP)
Paměť	• Dvojkanálová paměťová architektura DDR • 4 x 184kolíková patice DDR SDRAM DIMM 2,5 V, podporující paměť do kapacity až 4 GB • Podpora pamětí typu DDR SDRAM 400/333/266/200, bez vyrovnávací paměti
Rozšiřující sloty	• 1 x slot PCI Express x16 • 2 x slot PCI Express x1 • 3 x slot PCI
Disková zařízení	• Podporovaná CK8-04 Ultra - 4 x zařízení Ultra DMA133/100/66/33 - 4 x zařízení SATA - Konfigurace RAID 0 , RAID 1, RAID 0+1 • Podporovaná SiS180 - 2 x zařízení Ultra DMA133/100/66/33 - 2 x zařízení SATA - Konfigurace RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• Řadič TI TSB43AB22A IEEE 1394a • Podpora 2 kabelových portů IEEE 1394a s přenosovou rychlostí 100 Mb/s, 200 Mb/s a 400 Mb/s
Zvuk	• 6kanálový zvukový kodek Realtek ALC655 • Splňuje požadavky standardu AC'97 2.3
Duální LAN	• Řadič sítě 10/100 Mbps LAN, Realtek RTL8100C • Řadič gigabitové sítě LAN, Marvell 88E1111 PHY
Vstupy/ výstupy na zadním panelu	• 1x konektor klávesnice PS/2 • 1x konektor myši PS/2 • 4x port USB • 2x konektor LAN RJ45 • 1x sériový port (COM1) • 2x digitální výstup SPRIT (optický a koaxiální) • 1x zvukový konektor (linkový vstup/linkový výstup/mikrofon)
Vlastnosti BIOS	• Award BIOS s 4 Mb 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 • 3x konektor IDE • 6x konektor Serial ATA • 3x rozhraní USB 2.0 s podporou dalších 6 USB portů • 2x rozhraní 1394a • 1x rozhraní SMBus • 1x rozhraní LPT1 • 1x rozhraní pro spínač na předním panelu/LED • 1x rozhraní pro zvukový vstup/výstup na předním panelu • Rozhraní vstupu CD • Konektory CPUFAN1/NBFAN1/CASFAN1~2
Velikost	• Rozměry standardu ATX • 305mm x 244mm

Sumarul caracteristicilor

Unitatea centrală (CPU)	• Soclu 939 pentru unităţi centrale (CPU) AMD Athlon 64/Athlon 64 FX • Interfaţă CPU HyperTransport de înaltă performanţă • Viteză de transfer de 2000/1600/1200/800/400 MT/s
Set de chipuri	• Procesor de media şi comunicaţii (MCP) NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra)
Memorie	• Architectură cu module de memorie DDR cu canal dual • 4 socluri DDR SDRAM DIMM de 2,5 V şi 184 ace, cu capacitate maximă de 4 GB • Suport pentru module DDR SDRAM DDR400/333/266/200 fără zonă tampon
Sloturi de extindere	• Un slot PCI Express de 16x • Două sloturi PCI Express de 1x • Trei sloturi PCI
Stocare	• Compatibilă cu CK8-04 Ultra - Patru unităţi Ultra DMA133/100/66/33 - Patru unităţi SATA - Configuraţie RAID 0, RAID 1 şi RAID 0+1 • Compatibilă cu SiS180 - Două unităţi Ultra DMA133/100/66/33 - Două unităţi SATA devices - Configuraţie RAID 0, RAID 1 şi RAID 0+1

IEEE 1394a	• Controler TI TSB43AB22A IEEE1394a • Funcţionează cu 2 porturi de cablu IEEE1394a la viteze de 100 Mbiţi/s, 200 Mbiţi/s şi 400 Mbiţi/s
Audio	• CODEC audio Realtek ALC655 cu 6 canale • Compatibil cu specificaţia AC'97 2.3
LAN dual	• Controler LAN Realtek RTL8100C 10/100 Mbps • Marvell 88E1111 Giga LAN PHY
I/O de pe panoul din spate	• O tastatură PS/2 • Un conector de mouse PS/2 • Patru porturi USB • Două conectoare LAN RJ45 • Un port serial (COM1) • Două ieşiri SPDIF digitale (optică şi coaxială) • O mufă audio (cu porturi de intrare, ieşire şi pentru microfon)
Caracteristici BIOS	• Award BIOS cu Flash ROM de 4 Mb • 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 • Şase conectoare ATA seriale • Trei conectoare USB 2.0, cu posibilitate pentru alte 6 porturi USB • Două conectoare 1394a • Un conector SMBus • Un conector LPT1 • Un comutator/conector LED pe panoul frontal • Un conector audio pe panoul frontal • Conector intrare CD • Conectoare CPUFAN1/NBFAN1/CASFAN1~2
Caracteristici externe	• Dimensiuni ATX • 305mm x 244mm

Параметри

Процесор	• сокет 939 за процесор AMD Athlon 64/Athlon 64 FX • високопроизводителен интерфейс HyperTransport • скорост на обмен на данни 2000/1600/1200/800/400 MT/s
Чипсет	• Процесор за медия и комуникации (media and communications processor) NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra)
Памет	• двуканална архитектура на паметта DDR • 4 слота 184-pin, 2.5V, DDR SDRAM DIMM с поддръжка на общ капацитет до 4 GB • поддръжка на модули DDR400/333/266/200 небуферирана DDR SDRAM
Слотове за разширяване	• 1 слот PCI Express x16 • 2 слота PCI Express x1 • 3 слота PCI
Възможности за съхраняване на данни	• поддържани от CK8-04 Ultra - 4 устройства Ultra DMA133/100/66/33 - 4 устройства SATA - RAID 0 , RAID 1, RAID 0+1 • поддържани от SiS180 - 2 устройства Ultra DMA133/100/66/33 - 2 устройства SATA - RAID 0, RAID 1, RAID 0+1

IEEE 1394a	• контролер TI TSB43AB22A IEEE1394a • поддръжка на 2 кабелни порта IEEE1394a със скорост 100M bits/s, 200M bits/s, и 400M bits/s
Аудио	• 6-канален аудио CODEC Realtek ALC655 • съвместимост със спецификацията AC'97 2.3
Dual LAN	• мрежов контролер Realtek RTL8100C 10/100 Mbps • мрежов контролер Marvell 88E1111 Giga LAN PHY
Портове Вход/Изход на задния панел	• 1 порт PS/2 за клавиатура • 1 порт PS/2 за мишка • 4 порта USB • 2 конектора RJ45 LAN • 1 сериен порт (COM1) • 2 цифрови изхода SPDIF (оптичен и коаксиален) • 1 аудио гнездо (линеен вход/линеен изход/вход за микрофон)
Параметри на BIOS	• Award BIOS с 4Mb 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 или LS120 • 3 конектора IDE • 6 конектора Serial ATA • 3 колектора USB 2.0 с поддръжка на 6 допълнителни USB порта • 2 колектор 1394a • 1 колектор SMBus • 1 колектор LPT1 • 1 колектор за бутоните и LED-индикацията на предния панел • 1 колектор за аудио вход/изход на предния панел • колектор за CD in • конектори CPUFAN1/NBFAN1/CASFAN1~2
Размери	• ATX • 305mm x 244mm

Jellemzők összefoglalása

Központi egység(CPU)	• 939-es foglalat AMD Athlon 64/AMD Athlon 64 FX központi egységeknek • Nagy teljesítményű HyperTransport technologiás központi egység interfész • 2000/1600/1200/800/400 MT/s átviteli sebesség
Lapkakészlet	• NVIDIA® CrushK8-04 Ultra (CK8-04 Ultra) média és kommunikációs processzor (MCP)
Memória	• Duál csatornás DDR memória kiépítés • Négy 184 tűs, 2,5 V-os DDR SDRAM DIMM foglalat, maximum 4 GB kapacitással • Puffermentes DDR400/333/266/200 DDR SDRAM memóriaegységek támogatása
Bővítési foglalatok	• Egy 16-szoros PCI Express • Két egyszeres PCI Express • Három PCI foglalat
Tárolás	• Az CK8-04 Ultra által támogatott - Négy Ultra DMA 133/100/66/33 eszköz - Négy SATA eszköz - RAID 0 RAID 1 és RAID 0+1 konfiguráció • A SiS180 által támogatot - Két Ultra DMA 133/100/66/33 eszköz - Két SATA eszköz - RAID 0 RAID 1 és RAID 0+1 konfiguráció

IEEE 1394a	• TI TSB43AB22A IEEE1394a vezérlő • Két IEEE1394a 100 Mbit/s, 200 Mbit/s vagy 400 Mbit/s sebességű kábelportot támogat
Audio	• Realtek ALC655 6 csatornás audio CODEC • Megfelel az AC'97 2,3as specifikációnak
Duál LAN	• Realtek RTL8100C 10/100 Mbps sebességű LAN vezérlő • Marvell 88E1111 Giga LAN PHY
Hátsó panelen levő I/O	• Egy PS/2 billentyűzet • Egy PS/2 egércsatlakozó • Négy USB port • Két RJ45 LAN csatlakozó • Egy soros port (COM1) • Két digitalis SPDIF (optikai és koaxiális) kimenet • Egy Audio aljzat (bemenet, kimenet és mikorofon portokkal)
BIOS jellemzők	• Award BIOS 4 Mb 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 • Három IDE foglalat • Hat soros ATA csatlakozó • Három USB 2.0 csatlakozó, és további 6 USB porttal tud működni • Két 1394a csatlakozó • Egy SMBus csatlakozó • Egy LPT1 csatlakozó • Egy elülső panelen levő kapcsoló/LED csatlakozó • Az elülső panelen levő audio csatlakozó • CD bemenet csatlakozó • CPUFAN1/NBFAN1/CASFAN1~2 csatlakozók
Alaki jellemzők	• ATX méret • 305mm x 244mm

Legal Notices

Copyright

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

Disclaimer

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

Trademark Recognition

Microsoft, MS-DOS and Windows are registered trademarks of Microsoft Corp.
MMX, Pentium, Pentium II, Pentium III, Pentium IV, Celeron are registered trademarks of Intel Corporation.
Other product names used in this manual are the properties of their respective owners and are acknowledged.

Federal Communications Commision (FCC)

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

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

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

Declaration of Conformity

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

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

Canadian Department of Communications

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

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