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**

Essen, 04.03.2004

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

CERTIFICATION
SSCC
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CERTIFICATE
Certificate No.: 061-04-E1-0065-R1-L
We hereby certify that
ECS MANUFACTURING (SHANZHEN) CO., LTD.
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has been awarded this certificate for
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The Environmental Management System
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is engaged in manufacturing of Mother Board and Peripheral Card,
and interrelated managerial activities.
Date of issue: 28th Sept. 2004
Date of expiry: 27th Sept. 2007
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Version 1.0

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

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

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

Declaration of Conformity

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

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

Canadian Department of Communications

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

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

About the Manual

The manual consists of the following:

Chapter 1

Introducing the Motherboard

Describes features of the motherboard.

Go to ⇨ page 1

Chapter 2

Installing the Motherboard

Describes installation of motherboard components.

Go to ⇨ page 7

Chapter 3

Using BIOS

Provides information on using the BIOS Setup Utility.

Go to ⇨ page 27

Chapter 4

Using the Motherboard Software

Describes the motherboard software

Go to ⇨ page 47

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Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the RX480-A motherboard. This motherboard is a high performance, enhanced function motherboard that supports Socket 939 AMD Sempron/Athlon 64/Athlon 64 FX and CPUs for high-end business or personal desktop markets.

The motherboard incorporates the RX480 Northbridge (NB) and SB400 Southbridge (SB) chipsets. The Northbridge supports the HyperTransport (HT) interface speeds up to 2000MT/s data rate. It supports four DDR Sockets with up to maximum memory size of 4GB. One PCI Express x16 slot, intended for Graphics Interface, is fully compliant to the PCI Express Base Specification revision 1.0a.

The SB400 Southbridge supports three PCI slots which are PCI 2.3 compliant. In addition, two PCI Express x1 slots are supported, fully compliant to the PCI Express Base Specification, Revision 1.0a. It implements an EHCI compliant interface that provides 480Mb/s bandwidth for eight USB 2.0 ports (rear panel x 4, header x 4). Two onboard IDE connectors supports 4 IDE devices in UDMA 133/100/66/33 modes. The Southbridge integrates a Serial ATA host controller that is SATA v1.0 compliant, supporting four SATA ports with maximum transfer rate up to 150 MB/s each.

The RX480-A motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM1, LPT1, four USB ports, one optional LAN port, and audio jacks for microphone, line-in and 8-ch line out.

Feature

Processor

The RX480-A uses an 939-pin socket that carries the following features:

- Accommodates AMD Sempron/Athlon64/Athlon 64 FX processors
- Supports up to 2000MT/s HyperTransport™ (HT) interface speeds

HyperTransport™ Technology is a point-to-point link between two devices, it enables integrated circuits to exchange information at much higher speeds than currently available interconnect technologies.

Chipset

The RX480 Northbridge (NB) and SB400 Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

RX480 (NB)

- 1 x 2 (expandable to x 4) A-Link Express interface (PCI Express 1.0a compliant) for connection to the ATI IXP
- Supports one PCI Express x16 for Graphics Interface, fully compliant to the PCI Express Base Specification revision 1.0a.
- Fully supports ACPI states S1, S3, S4 and S5.
- Supports Single chip solution in 0.13 micron, 1.0-1.2v CMOS technology

SB400 (SB)

- 2/4-lane A-Link Express interface (PCI Express 1.0a compliant) to RADEON IGPs
- Compliant with PCI 2.3 specificaiton, up to 7 bus master devices supported
- Four Serial ATA devices supported, compliant with Serial ATA 1.0 specification, RAID 0 and RAID 1 accommodated
- Integrated USB 2.0 Host Controller supporting up to eight USB 2.0 ports
- Integrated IDE controller supports Ultra DMA 133/100/66/33 modes

Memory

- DDR 400/333/266 DDR SDRAM with Dual Channel supported
- Accommodates four unbuffered DIMMs, up to 4GB maximum memory size

Audio (optional)

This motherboard may support either of the following Audio chipset.

• Compliant with the AC'97 v2.3 specification • 16-bit Stereo full-duplex CODEC with 48KHz sampling rate • Supports double sampling rate (96KHz) of DVD audio playback • Direct Sound 3D™ compatible
• Compliant with AC'97 2.3 specification, supporting 8-ch DACs • Meets performance requirements for audio on PC99/2001 systems • Meets Microsoft WHQL/WLP 2.0 audio requirements

Onboard LAN (Optional)

This motherboard may support either of the following LAN with following features:

• Support 10/100 Mbps N-way Auto-negotiation operation • Supports Wake-On-LAN function and remote wake-up • Supports LED pins for various network activity indications • Supports Full Duplex Flow Control (IEEE 802.3x)
• Integrated 10/100/1000 transceiver • Supports PCI rev. 2.3, 32-bit, 33/66MHz • Crossover Detection & Auto-Correction • Wake-on-LAN and remote wake-up support

1394a FireWire (Optional)

- Fully compliant with provisions of IEEE Std 1394-1995 for a high-performance serial bus and IEEE Std 1394a-2000
- Two IEEE Std 1394a-2000 fully compliant cable ports at 100M/200M400M bits/s

Expansion Options

The motherboard comes with the following expansion options:

- One PCI Express x16 for Graphic Interface
- Two PCI Express x1 slots
- Three 32-bit PCI v2.3 compliant slots
- Two 40-pin IDE connectors supporting up to 4 IDE devices
- One floppy disk drive interface
- Four 7-pin SATA connectors

The motherboard supports UltraDMA bus mastering with transfer rates of 133/100/66/33 MB/s.

Integrated I/O

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

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- Four USB ports
- One 1394a port (optional)
- One LAN port (optional)
- Audio jacks for microphone in, line-in and 8-ch Audio output

BIOS Firmware

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

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memroy timing

The firmware can also be used to set parameters for different processor clock speeds.

Some hardware specifications and software items are subject to change with out prior notice.

Motherboard Components

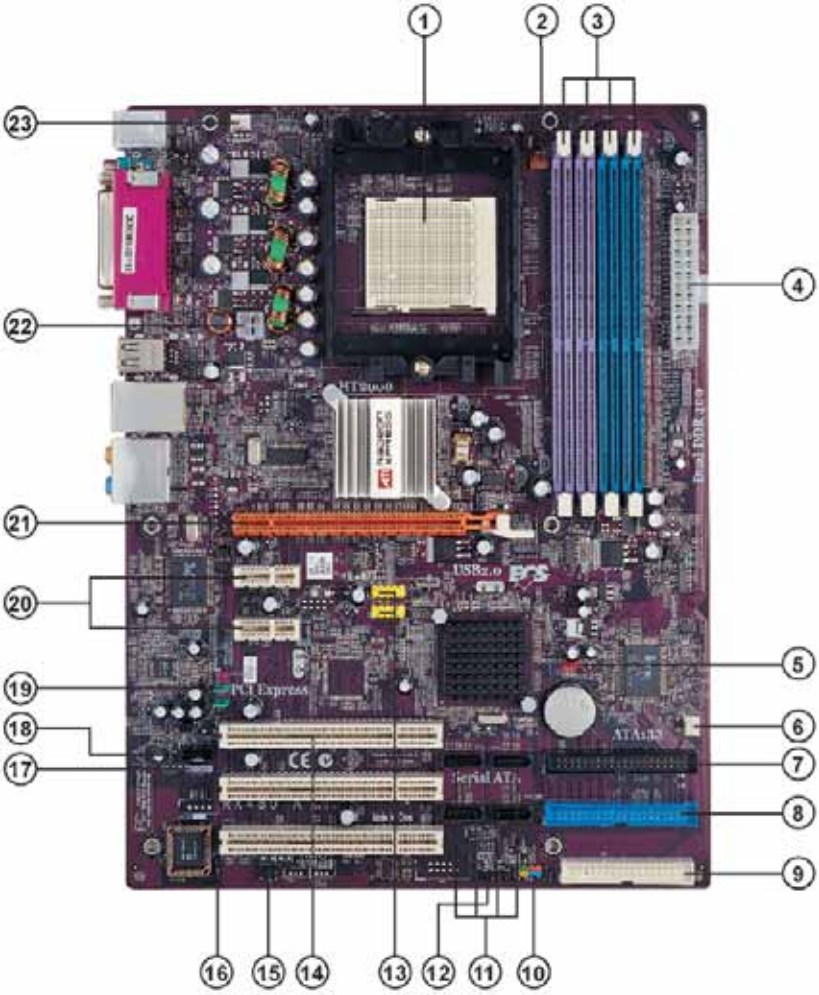


Table of Motherboard Components

LABEL	COMPONENT
1 CPU Socket	Socket 939 for AMD K8 processor
2 CPU_FAN	CPU cooling fan connector
3 DIMM1~4	184-pin DDR SDRAM slots
4 ATX_POWER	Standard 24-pin ATX power connector
5 CLR_CMOS	Clear CMOS jumper
6 PWR_FAN*	Power fan connector
7 IDE2	Secondary IDE channel
8 IDE1	Primary IDE channel
9 FDD	Floppy diskette drive connector
10 PANEL1	Front panel switch/LED header
11 SATA1~4	Serial ATA connectors
12 J1	Speaker header
13 USB3-4	Front Panel USB headers
14 PCI1~3	32-bit add-on card slots
15 IR1*	Infrared header
16 BIOS_WP	BIOS protection jumper
17 SPDIFO2	SPDIF out header
18 CD_IN1	Analog audio input connector
19 AUDIO2	Front panel audio header
20 PCI-E1~2	PCI Express x1 slots
21 PCIEX16	PCI Express x16 graphics card slot
22 ATX12V	4-pin +12V power connector
23 SYS_FAN*	System cooling fan connector

"*" *stands for optional components.*

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

Memo

Chapter 2
Installing the Motherboard

Safety Precautions

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

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the micro ATX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, RX480-A supports one or two floppy diskette drives and four enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

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

This motherboard carries a micro ATX form factor of 304 x 225 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

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

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

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

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

Checking Jumper Settings

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

Setting Jumpers

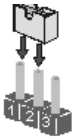
Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

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

SHORT

OPEN

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



Checking Jumper Settings

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

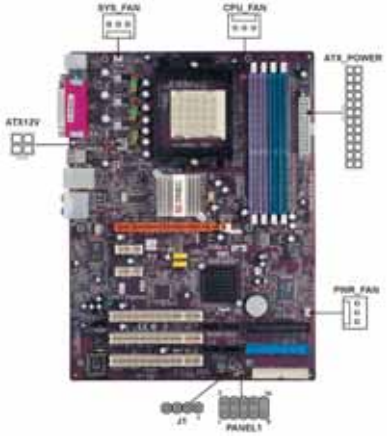
Jumper Settings

Jumper	Type	Description	Setting (default)	
CLR_CMOS	3-pin	CLEAR CMOS	1-2: CLEAR 2-3: NORMAL Before clearing the CMOS, make sure to turn off the system.	CLR_CMOS 1
BIOS_WP	2-pin	BIOS PROTECT	OPEN: DISABLE SHORT: ENABLE	BIOS_WP 1

Connecting Case Components

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

1 Connect the CPU cooling fan cable to **CPU_FAN**.
2 Connect the system cooling fan connector to **SYS_FAN**.
3 Connect the power fan connector to **PWR_FAN**.
4 Connect the case speaker cable to **J1.**
5 Connect the case switches and indicator LEDs to the **PANEL1**.
6 Connect the standard power supply connector to **ATX_POWER**.
7 Connect the auxiliary case power supply connector to **ATX12V**.

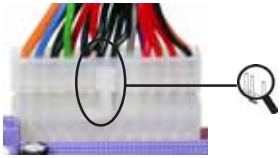


Connecting 20/24-pin power cable

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. A minimum power of 300W is recommended for a fully-configured system.

20-pin power cable

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



24-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable clings to the right side of the ATX_POWER connector latch.

CPU_FAN/SYS_FAN/PWR_FAN: FAN Power Connectors

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

J1: Internal Speaker

Pin	Signal Name
1	VCC
2	Key
3	NC
4	Signal

ATX12V: ATX 12V Power Connector

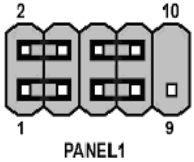
Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

ATX_POWER: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	GND
4	+5V	16	PS_ON
5	Ground	17	GND
6	+5V	18	GND
7	Ground	19	GND
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

Front Panel Header

The front panel header (PANEL1) provides a standard set of switch and LED headers commonly found on ATX or micro ATX cases. Refer to the table below for information:



PANEL1

Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

** MSG LED (dual color or single color)*

Hard Drive Activity LED

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

Power/Sleep/Message waiting LED

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

Reset Switch

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

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing Hardware

Installing the Processor

Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

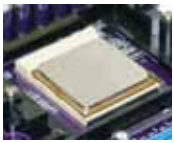
This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock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

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

This motherboard has a Socket 939 porcessor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

The following illustration shows CPU installation components.



1 Install your CPU. Pull up the lever away from the socket and lift up to 90-degree angle.
2 Locate the CPU cut edge (the corner with the pin hold noticeably missing). Align and insert the CPU correctly.
3 Press the lever down and apply thermal grease on top of the CPU.
4 Put the CPU Fan down on the retention module and snap the four retention legs of the cooling fan into place.
5 Flip the levers over to lock the heat sink in place and connect the CPU cooling Fan power cable to the CPUFAN connector. This completes the installation.

To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 4800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

Installing Memory Modules

This motherboard accomodates four memory modules. It can support four 184-pin 2.5V unbuffered DIMM, DDR 400/333/266. The maximum memory capacity is 4GB. You must install at least one module in any of the two slots. Each module can be installed with 256MB to 1GB of memory.

DDR SDRAM memory module table

Memory module	Memory Bus
DDR 266	***133MHz***
DDR 333	***166MHz***
DDR 400	***200MHz***

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

Installation Procedure

Refer to the following to install the memory modules.

1 This motherboard supports unbuffered DDR SDRAM .
2 Push the latches on each side of the DIMM slot down.
3 Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4 Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5 Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6 Install any remaining DIMM modules.

Table A: Unbuffered DIMM Support for 939-pin

Data Bus	Chip Selects				Maximum DRAM Speed	
	MEMCS_1L_L*	MEMCS_1H_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 B: 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	NANYA	NT128D64SH4B1G-5
	Infineon	HYS64D16301GU-5-B
	NANYA	NT128D64SH4B1G-5T
256MB	Micron	MT16VDDT3264AG-403B2
	Infineon	HYS64D32300GU-5-B
	SAMSUNG	M368L3223DTM-CC4
	NANYA	NT256D64S88B1G-5T
	Infineon	HYS64D32300HU-5-C
	Kingston	KVR400X64C3A
	Micron	MT8VDDT3264AG-40BC4
512MB	NANYA	NT512D64S8HB1G-5T
	Infineon	HYS64D64320HU-5-C

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

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

About IDE Devices

Your motherboard has two IDE channel interfaces (IDE1 & IDE2). Two IDE ribbon cables supporting four IDE devices is bundled with the motherboard.

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

IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.

IDE2: Secondary IDE Connector

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

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

About SATA Connectors

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

Installing Serial ATA Hard Drives

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

SATA cable (optional)

SATA power cable (optional)

Refer to the illustration below for proper installation:

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

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

Installing a Floppy Diskette Drive

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

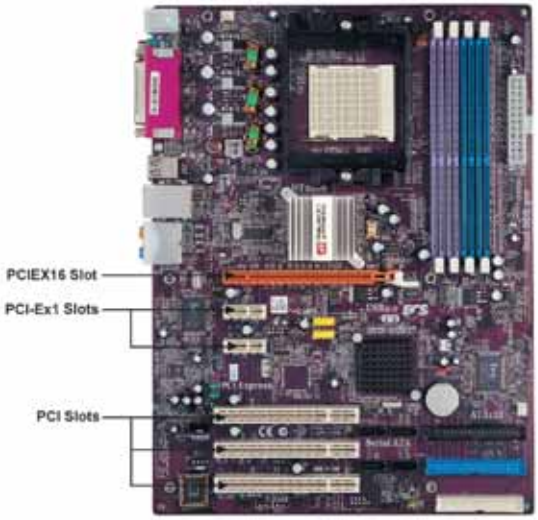
You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

FDD: Floppy Disk Connector

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

Installing Add-on Cards

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



PCIEX16 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 Specification revision 1.0a.

PCI-E1~2 (PCI-Ex1 Slots) The two PCI Express x1 slots are fully compliant to the PCI Express Base Specification revision 1.0a as well.

PCI 1~3 Slots This motherboard is equipped with three standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.3 compliant.

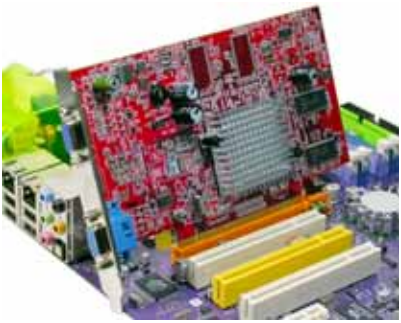
1.Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

2.Some PCI-E x16 graphics cards may be so bulky that it could block one PCI-E x1 slot.

3.Please pull out the PCI-Ex16 graphics card straightway to remove it when you want to uninstall it.

Follow these instructions to install an add-on card:

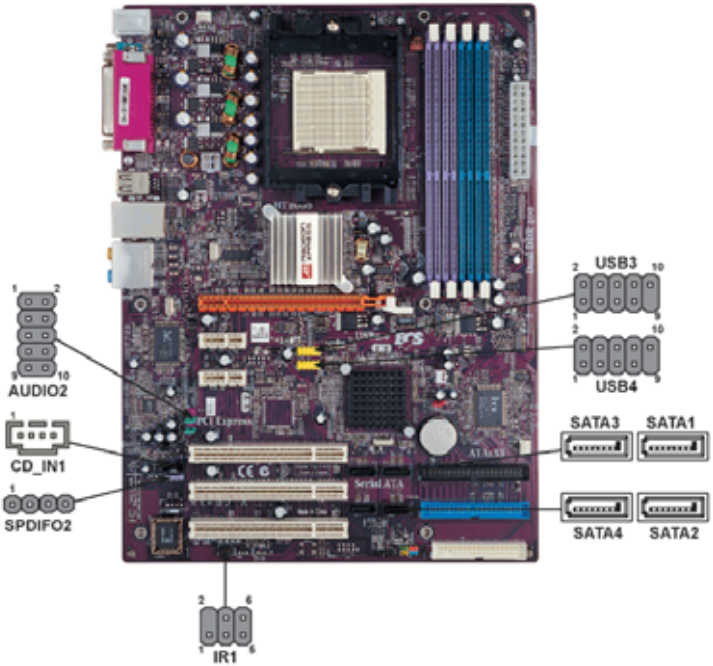
1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3 Secure the metal bracket of the card to the system case with a screw.



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

Connecting Optional Devices

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



AUDIO2: Front Panel Audio header

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

Pin	Signal Name	Function
1	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	AUD_MIC_BIAS	Microphone Power
4	AUD_VCC	Filtered +5V used by Analog Audio Circuits
5	AUD_F_R	Right Channel audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	REVD	Reserved
8	Key	No Pin
9	AUD_F_L	Left Channel Audio signal to Front Panel
10	AUD_RET_L	Left Channel Audio signal to Return from Front Panel

IR1: Infrared header

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.

Pin	Signal Name
1	RSVD
2	No Pin
3	IR Power, +5V
4	Ground
5	IR_Tx
6	IR_Rx

SATA1/2/3/4: Serial ATA connectors

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

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

SPDIFO2: SPDIF out header

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

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	VCC	5V analog power
3	Key	No pin
4	GND	Ground

CD_IN1: Analog audio input connector

Pin	Signal Name	Function
1	CDL	Left CD-in signal
2	CDG	CD-in ground
3	CDG	CD-in ground
4	CDR	Right CD-in signal

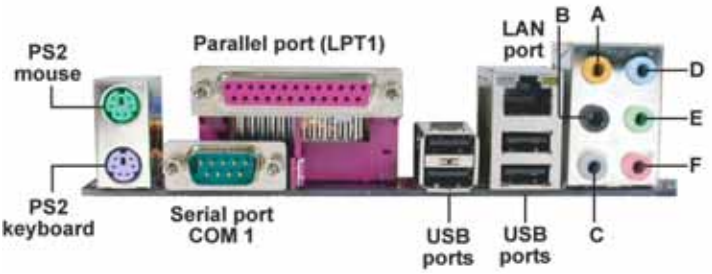
USB3/4: Front Panel USB header

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, there are two USB headers onboard. Use the auxiliary USB headers to connect the front-mounted ports to the motherboard.

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

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:



PS2 Mouse Use the upper PS/2 port to connect a PS/2 pointing device.

PS2 Keyboard Use the lower PS/2 port to connect a PS/2 keyboard.

Parallel Port (LPT1) Use LPT1 to connect printers or other parallel communications devices.

Serial Port (COM1) Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.

LAN Port (optional) Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

USB Ports Use the USB ports to connect USB devices.

Audio Ports Use the audio jacks to connect audio devices. The D port is for stereo line-in signal, while the F port is for microphone in signal. This motherboard supports 8-channel audio devices that correspond to the A, B, C, and E port respectively. In addition, all of the 3 ports, B, C, and E provide users with both right & left channels individually. Users please refer to the following note for specific port function definition.

A: Center & Woofer	D: Line-in
B: Back Surround	E: Front Out
C: Side Surround	F: Mic_in Rear

The above port definition can be changed to audio input or audio output by changing the driver utility setting.

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

Memo

Chapter 3
Using BIOS

About the Setup Utility

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

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

The BIOS Setup Utility enables you to configure:

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

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

This chapter provides explanations for Setup Utility options.

The Standard Configuration

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

This Setup Utility should be used:

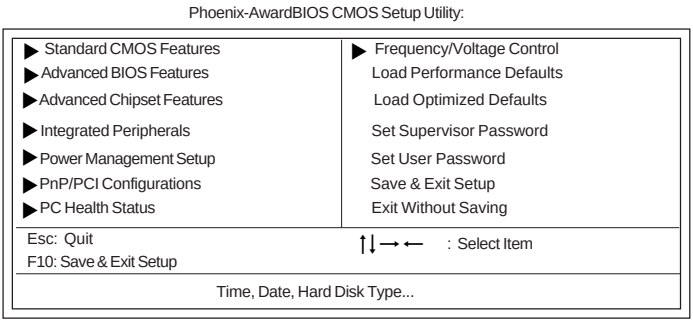
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security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

Entering the Setup Utility

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

Press DEL to enter SETUP

Pressing the delete key accesses the BIOS Setup Utility:



BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
←↑↓→	Move
Enter	Select
+/-/PU/PD	Value
ESC	Exits the current menu
F1	General Help
F2	Item Help
F5	Previous Values
F6	Fail-Safe Defaults
F7	Optimized Defaults
F10	Save

Updating the BIOS

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

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.
3. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
5. Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
6. At the A:\ prompt, type the Flash Utility program name and press <Enter>.
7. Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
8. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

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

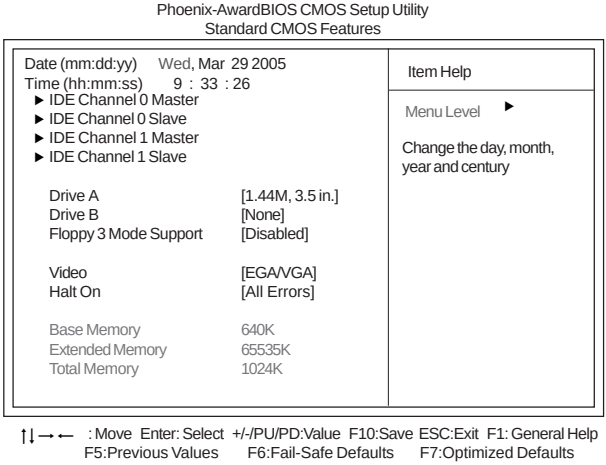
Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

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

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

Standard CMOS Features

This option displays basic information about your system.



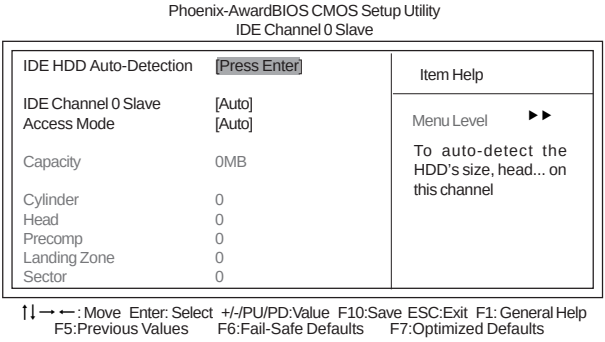
Date and Time

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.

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

IDE Channel 0/1 Master/Slave (Auto)

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

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

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

Access Mode (Auto)

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive. If you choose IDE Channel 2/3 Master, the item only have Large and Auto.

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

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

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

Floppy 3 Mode Support (Disabled)

Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

Video (EGA/VGA)

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

Halt On (All Errors)

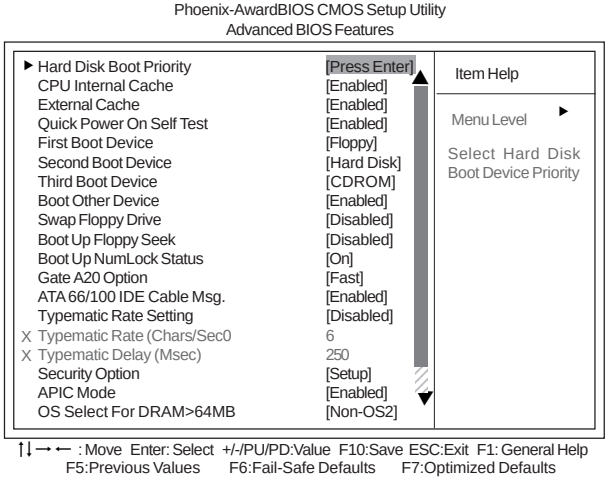
This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Base Memory, Extended Memory, and Total Memory

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

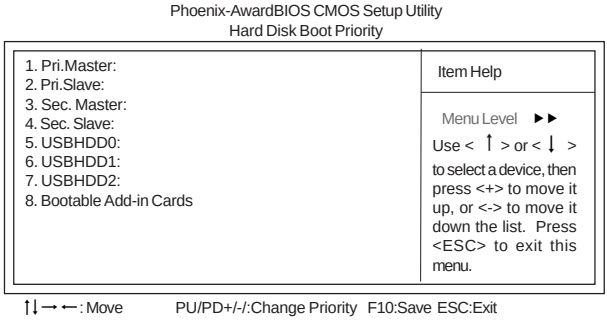
Advanced BIOS Features

This option defines advanced information about your system.



▶Hard Disk Boot Priority (Press Enter)

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 internal level 1 (L1) cache memory to improve performance. Leave this item at the default value for better performance.

External Cache (Enabled)

Most processors that can be installed in this system use external level 2 (L2) cache memory to improve 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 diskette drive with 360K capacity.

Boot Up NumLock Status (On)

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

Gate A20 Option (Fast)

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

ATA 66/100 IDE Cable Msg. (Enabled)

This item enables or disables the display of the ATA 66/100 Cable MSG.

Typematic Rate Setting (Disabled)

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

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

Security Option (Setup)

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

APIC Mode (Enabled)

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

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

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.

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

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

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

Full Screen LOGO Show (Enabled)

When enabled, this will show a full screen company logo on the boot up screen. Select disabled when you want to show POST messages during boot up.

Small Logo (EPA) Show (Disabled)

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

BIOS Rom TBL protect (Disabled)

This item enables or disables the BIOS Bootblock protect.

Advanced Chipset Features

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

Phoenix-AwardBIOS CMOS Setup Utility
Advanced Chipset Features

▶ DRAM Configuration	[Press Enter]	Item Help
▶ LDT & PCI Bus Control	[Press Enter]	Menu Level ▶
Video RAM Cacheable	[Enabled]	DRAM timing and control
System BIOS Cacheable	[Enabled]	

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

▶ DRAM Configuration(Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
DRAM Configuration

Timing Mode	[Auto]	Item Help
X Memclock index value (MHz)	200Mhz	
X CAS# latency (Tcl)	2.5	Menu Level ▶▶
X Min RAS# active time (Tras)	8T	
X RAS# to CAS# delay (Trcd)	4T	
X Row precharge Time (Trp)	4T	
X Row to Row delay(Trrd)	2T	
X Row cycle time (Trc)	12T	
X Row refresh cyc time(Trfc)	24T	
User Config mode	[Auto]	
X 1T/2T Memory Timing	2T	
X Read Preamble value	6.5ns	
X Async Latency value	5ns	

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

Timing Mode (Auto)

This item allows you to set up the DRAM timing manually or automatically. This item is set to [Auto] by default. When setting to [Manua], the following items are adjustable.

- **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 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# to active time (Tras)** This item determines the time RAS takes to read from and write to a memory cell.
- **RAS to CAS Delay (Trcd) (4T):** This is the amount of time a CAS is performed after a RAS. The lower the better, but some DRAM does not support low figures.
- **Row precharge Time (Trrd) (2T)** This item specifies the Row precharge to Active or Auto-Refresh of the same bank.
- **Row to Row delay (Trrd) (2T)** This item specifies the active-to-active delay of different banks.
- **Row cycle time (Trc) (12T)** This item determines the minumum number of clock cycles a memory row takes to complete a full cycle, from row activation up to the precharging of the active row.
- **Row refresh cyc time (Trfc) (24T)** Auto-refreshactive to RAS#-active or RAS# auto-refresh.

User Config mode (Auto)

This item has the capacity to automatically detect all of the following fields default values. This item is set to [Auto] by default. When setting to [Manua], the following items are adjustable.

- **1T/2T Memory Timing (2T)** This item controls the SDRAM command rate.
- **Read Preamble value (6.5ns)** This item allows you to set Read Preamble value from 2ns, to 9.5ns, and it is specified in units of 0.5ns.
- **Async Latency value (5ns)** This item allows you to set Async Latency value from 2ns to 11ns, and it is specified in units of 1 ns.

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

▶LDT & PCI Bus Control (Press Enter)

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

Phoenix-AwardBIOS CMOS Setup Utility
Advanced Chipset Features

LDT Configuration	[Enabled]	Item Help
Upstream LDT Bus Width	[16 bit]	
Downstream LDT Bus Width	[16 bit]	Menu Level ▶▶
LDT Bus Frequency	[Auto]	
PCIE Reset Delay	[Disabled]	

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

LDT Configuration (Enabled)

This item enables or disables the LDT configuration.

Upstream LDT Bus Width (16 bit)

This item allows users to manually adjust the upstream LDT bus width to be 8 bit or 16 bit.

Downstream LDT Bus Width (16 bit)

This item allows users to manually adjust the downstream LDT bus width to be 8 bit or 16 bit.

LDT Bus Frequency (Auto)

This item allows users to manually adjust the LDT Bus Frequency.

PCIE Reset Delay (Disabled)

This item enables or disables the PCIE reset delay.

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

Video RAM Cacheable (Enabled)

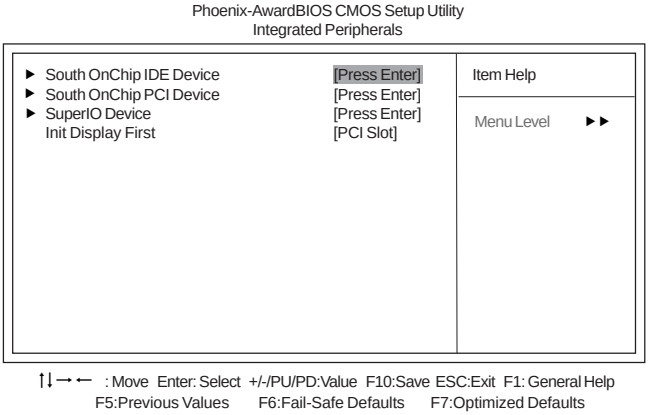
This item allows users to enable or disable the video ram cacheable function.

System BIOS Cacheable (Enabled)

This feature is only valid when the system BIOS is shadowed. It enables or disables the caching of the system BIOS ROM at F0000h-FFFFFh via the L2 cache. This greatly speeds up accesses to the system BIOS.

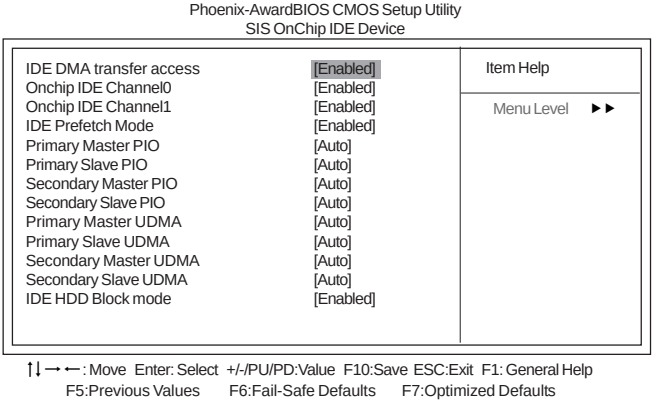
Integrated Peripherals

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



▶ South OnChip IDE Device (Press Enter)

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



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.

OnChip IDE Channel0/1 (Enabled)

Use this item to enable or disable the PCI IDE channels that are integrated on the motherboard.

IDE Prefetch Mode (Enabled)

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

Primary/Secondary Master/Slave PIO (Auto)

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

Primary/Secondary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device. This 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.

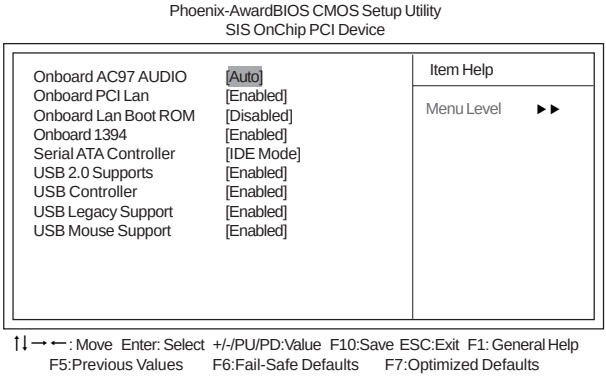
IDE HDD Block Mode (Enabled)

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support. It also improves the speed of access to IDE devices.

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

▶South OnChip PCI Device (Press Enter)

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



Onboard AC' 97 AUDIO (Auto)

This option allows you to control the onboard AC' 97 audio. Disable this item if you are going to install a PCI audio add-on card.

Onboard PCI LAN (Enabled)

This option allows you to control the onboard LAN device.

Onboard LAN Boot ROM (Disabled)

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

Onboard 1394 (Enabled)

This option allows you to enable or disable the onboard 1394 function.

SATA Controller (IDE Mode)

This item allows you to controller Serial ATA controller.

USB 2.0 Supports (Enabled)

Enable this item if your system supports USB 2.0.

USB Controller (Enabled)

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

USB Legacy Support (Enabled)

Use this item to enable or disable support for legacy USB devices. Setting to Auto allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

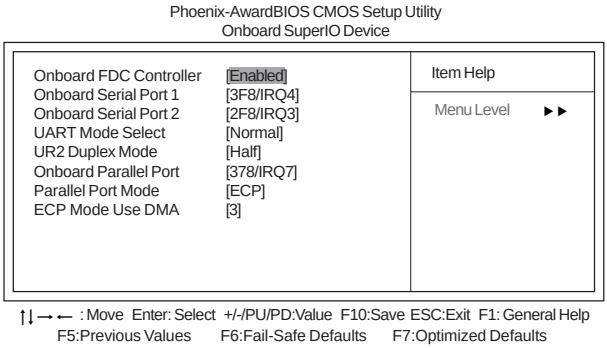
USB Mouse Support (Enabled)

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

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

▶ Onboard SuperIO 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 (COM1).

UART Mode Select (Normal)

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

UR2 Duplex Mode (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 (ECP)

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

ECP Mode Use DMA (3)

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

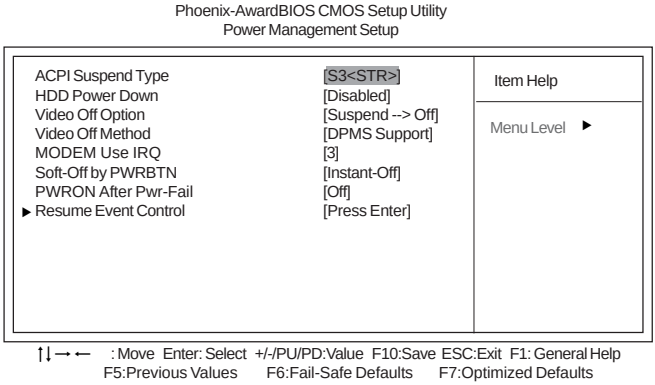
Press <Esc> to return to the Integrated Peripherals page.

Init Display First (PCI Slot)

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the motherboard.

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.

HDD Power Down (Disabled)

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

Video Off Option (Suspend—> Off)

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

Video Off Method (DPMS Support)

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

MODEM Use IRQ (3)

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

Soft-Off by PWRBTN (Instant Off)

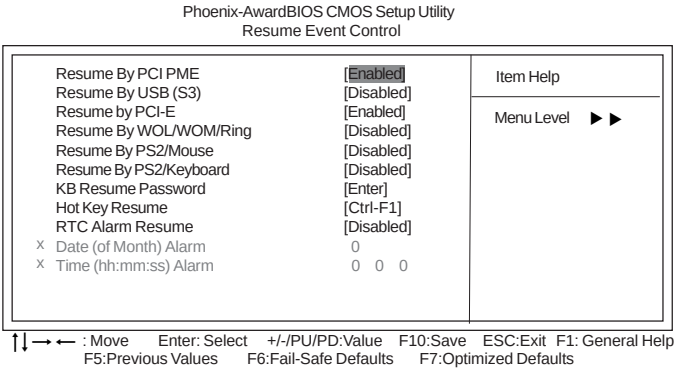
Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to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

PWRON After PWR-Fail (Off)

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

►Resume Event Control (Press Enter)

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



Resume by PCI PME (Enabled)

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

Resume by USB (S3) (Disabled)

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

Resume by PCI-E (Enabled)

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

Resume by WOL/WOM/Ring (Disabled)

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

Resume by PS2/Mouse/Keyboard (Disabled)

These items enable or disable you to allow keyboard or mouse activity to awaken the system from power saving mode.

KB Resume Password (Enter)

Use this item to define the password when using the keyboard to resume the system.

Hot Key Resume (Ctrl-F1)

Use this item to define the password when using the keyboard “hot key” to resume the system.

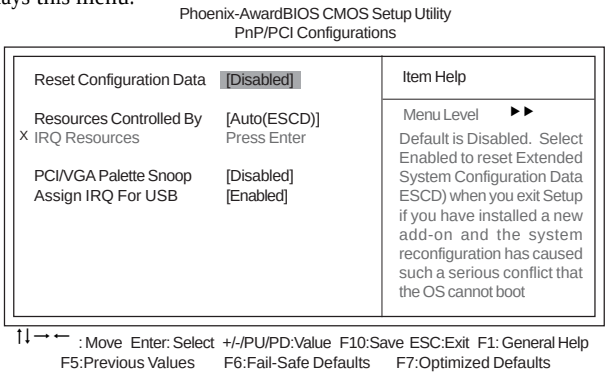
RTC Alarm Resume (Disabled)

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

- **Date of Month**: Use this item to define the date of month when using the RTC alarm to resume the system.
- **Resume Time**: Use this item to define the time when using the RTC alarm to resume the system.

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

PCI/VGA Palette Snoop [Disabled]

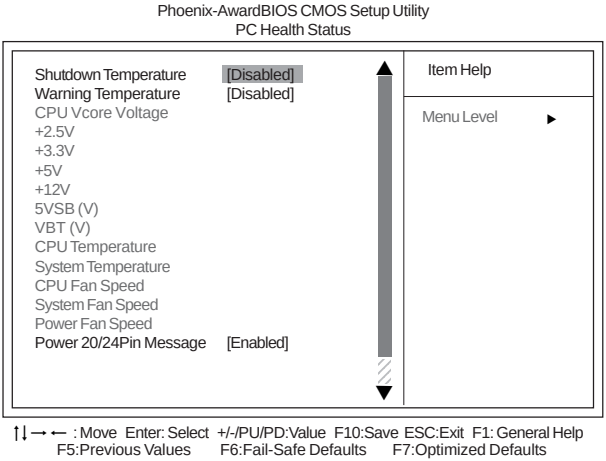
This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

Assign IRQ For USB [Enabled]

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

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.

Warning Temperature [Disabled]

This item allows users to manually set the warning temperature of the system.

System Component Characteristics

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

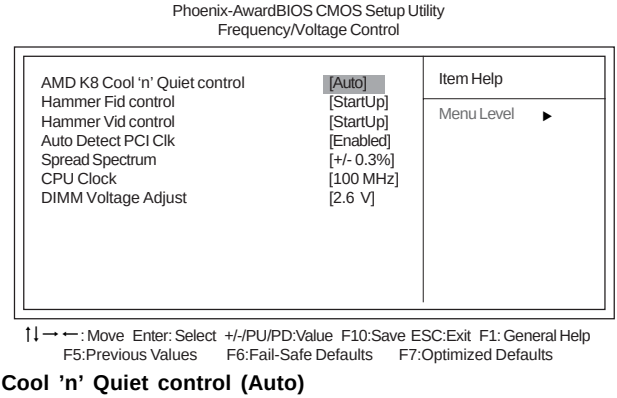
- CPU Vcore Voltage
- Memory Voltage
- CPU Temperature
- System Temperature
- CPU Fan Speed
- SYSTEM Fan Speed
- Power Fan Speed

Power 20/24Pin Message [Enabled]

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

Frequency/Voltage Control

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



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 adjust the CPU frequency; the range will be varied according to different CPUs. We strongly recommend you leave this item at its default value.

Hammer VID Control (StartUp)

This item allows users to adjust the CPU voltage. We strongly recommend you leave this item at its default value.

Auto Detect PCI Clk (Enabled)

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

Spread Spectrum (+/- 0.3%)

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

CPU Clock (100 MHz)

This item allows users to manually adjust the CPU lock.

DIMM Voltage Adjust (2.6V)

Use this item to manually adjust the DIMM voltage, from.

Load Performance Defaults

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

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

1. *Power on the system and press "Insert" key. The system will bypass the previous BIOS setting and automatically reload the default BIOS. (This procedure is BIOS setup only!)*
2. *Apply to the jumper setting reference onboard and proceed with the "Clear CMOS" to recover the default BIOS setting. Please refer to Chapter 2, page 9, to complete the clear CMOS action. (This procedure requires opening the chasis!)*

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. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

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

Set Supervisor/User Password

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

ENTER PASSWORD

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

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

PASSWORD DISABLED

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

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

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

Save & Exit Setup

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

Exit Without Saving

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

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

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

Chapter 4
Using the Motherboard Software

About the Software CD-ROM

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

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

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

Auto-installing under Windows 2000/XP

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

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

The support software CD-ROM disc loads automatically under Windows 98/ME/2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.

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

Setup Tab

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

Application Tab

Lists the software utilities that are available on the CD.

Read Me Tab

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

Running Setup

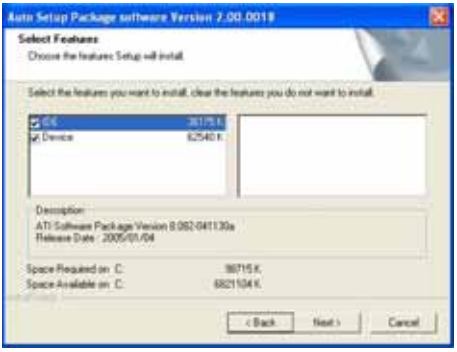
Follow these instructions to install device drivers and software for the motherboard:

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

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

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

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



3. *Check the box next to the items you want to install. The default options are recommended.*
4. *Click **Next** run the Installation Wizard. An item installation screen appears:*

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

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

Manual Installation

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

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

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

Utility Software Reference

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

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

AMI/AWARD Flash Utility

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

WinFlash Utility

The Award WinFlash utility is a Windows version of the DOS Award BIOS flash writer utility. The utility enables you to flash the system BIOS stored on a Flash Memory chip on the motherboard while in a Windows environment. This utility is currently available for WINXP\ME\2000\98SE. To install the WinFlash utility, run WINFLASH.EXE from the following directory: \UTILITY\WINFLASH 1.51

This concludes Chapter 4.

Caractéristiques

Processeur

La RX480-A utilise un socket de 939 broches ayant les caractéristiques suivantes :

- Peut recevoir les processeurs AMD Sempron/Athlon64/Athlon 64 FX
- Prend en charge des vitesses d'interface HyperTransport™ (HT) allant jusqu'à 2000MT/s

La Technologie HyperTransport™ est une liaison point à point entre deux matériels, elle permet à des circuits intégrés d'échanger des informations à des vitesses bien plus élevées que ne le permettent les technologies à interconnexions actuellement disponibles.

Chipset

Les chipsets RX480 Northbridge (NB) et SB400 Southbridge (SB) sont basés sur une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées.

RX480 (NB)

- 1 x2 (extensible à x4) interface A-Link Express (conforme PCI Express 1.0a) pour connexion à la ATI IXP
- Prend en charge un PCI Express x16 pour Interface Graphique, entièrement conforme à la Spécification de Base PCI Express révision 1.0a.
- Prend entièrement en charge les états ACPI S1, S3, S4 et S5.
- Prend en charge la solution à simple puce dans la technologie CMOS 0,13 micron, 1,0-1,2v

SB400 (SB)

- Interface 2/4-lane A-Link Express (conforme PCI Express 1.0a) à RADEON IGPs
- Conforme aux spécifications PCI 2.3, jusqu'à 7 périphériques maîtrise de bus pris en charge
- Quatre périphériques Serial ATA pris en charge, conforme aux spécifications Serial ATA 1.0, RAID 0 et RAID 1 accommodés
- Contrôleur d'Hôte USB 2.0 intégré prenant en charge jusqu'à huit ports USB 2.0
- Contrôleur IDE intégré prenant en charge les modes Ultra DMA 133/100/66/33

Mémoire

- SDRAM DDR 400/333/266 DDR avec double canal pris en charge
- Peut recevoir quatre DIMM sans tampon, taille mémoire maximum de 4 Go

Audio (optionnel)

Cette carte mère prend en charge les chipsets Audio suivants :

• Conforme aux spécifications AC'97 2.3 • CODEC full-duplex 16 bits avec vitesse d'échantillonnage de 48MHz • Prend en charge la vitesse d'échantillonnage double (96KHz) de la lecture audio DVD • Compatible Direct Sound 3D™
• Conforme aux spécifications AC'97 2.3, prenant en charge les DAC 8 canaux • Répond aux exigences de performances pour l'audio sur les systèmes PC99/2001 • Conforme aux exigences audio de Microsoft WHQL/WLP 2.0

Multi-Language Translation

LAN interne (optionnel)

Cette carte mère prend en charge les chipsets LAN suivants :

• Supporte le fonctionnement en Auto-négociation N-Way en 10/100Mbps • Prend en charge la fonction Wake-On-LAN (WOL) (réveil par appel réseau) et le réveil à distance • Prend en charge les broches LED pour diverses indications d'activités de réseau • Prend en charge le Contrôle de Flux Full Duplex (IEEE 802.3x)
• Emetteur-récepteur 10/100/1000 intégré • Prend en charge PCI v2.3, 32 bits, 33/66-MHz • Détection de croisement & Correction auto • Prise en charge de Réveil par LAN et réveil distant

1394a FireWire (Optionnel)

- Entièrement conforme avec provisions de IEEE Std 1394-1995 pour les bus série de hautes performances et IEEE Std 1394a-2000
- Deux ports de câble entièrement conforme IEEE Std 1394a-2000 à 400M bits/s

Options d'extension

La carte mère est livrée avec les options d'extensions suivantes:

- Un PCI Express x16 pour Interface Graphique
- Deux logements PCI Express x1
- Trois emplacements PCI v2.3 bits
- Deux connecteurs IDE de 40 broches prenant en charge jusqu'à quatre périphériques IDE
- Une interface de lecteur de disquette
- Quatre connecteurs SATA à 7 broches

La carte mère prenant en charge la maîtrise de bus UltraDMA avec vitesses de transfert de 133/100/66/33 Mo/s.

E/S intégrées

La carte mère possède un jeu complet de ports d'E/S et de connecteurs:

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Quatre ports USB
- Un port 1394a (optionnel)
- Un port LAN (optionnel)
- Prises audio pour entrée microphone, ligne d'entrée et sortie Audio 8 canaux

Microprogramme BIOS

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

- Gestion de l'alimentation
- Alarmes de réveil
- Paramètres de CPU
- Synchronisation du CPU et de la mémoire

Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.

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

Multi-Language Translation

Feature

Prozessor

Das RX480-A verwendet einen 939-Pin Socket mit den folgenden Merkmalen:

- Nimmt AMD Sempron/Athlon64/Athlon 64 FX Prozessoren auf
- Unterstützt bis zu 2000MT/s HyperTransport™(HT) Interface-Geschwindigkeiten

HyperTransport ™ Technologie ist ein Punkt-zu-Punkt Link zwischen zwei Geräten. Es ermöglicht integrierten Schaltkreisen einen Informationsaustausch mit wesentlich höherer Geschwindigkeit als bei gängigen Interconnect-Technologien.

Chipsatz

Die RX480 Northbridge (NB) und SB400 Southbridge (SB) Chipsätze basieren auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung.

RX480(NB)

- 1 x2 (auf x4 erweiterbar) A-Link Express Interface (entspricht PCI Express 1.0a) für die Verbindung zu ATI IXP
- Unterstützt eine PCI Express x16 Grafik-Interface, mit vollständiger Entsprechung zur PCI Express Base Spezifikation Revision 1.0a.
- Vollständige Unterstützung für ACPI-Modi S1, S3, S4 und S5.
- Unterstützt Single-Chip-Lösung in 0,13 Mikron, 1.0-1.2v CMOS-Technologie

SB400 (NB)

- 2/4-Lane A-Link Express Interface (entspricht PCI Express 1.0a) zu RADEON IGPs
- Entspricht PCI 2.3 Spezifikation, es werden bis zu 7 Busmaster-Geräte unterstützt
- Unterstützung für vier Serial ATA-Geräte, entspricht Serial ATA 1.0 Spezifikation, nimmt RAID 0 und RAID 1 auf
- Integrierter USB 2.0 Host-Controller unterstützt bis zu acht USB 2.0 Ports
- Integrierter IDE-Controller unterstützt Ultra DMA 133/100/66/33 Modi

Speicher

- Unterstützung für DDR 400/333/266 DDR SDRAM mit Dualkanal
- Nimmt vier ungepufferte DIMMs auf; die maximale Speichergröße beträgt bis zu 4 GB

Audio (Optional)

Dieses Mainboard kann einen der folgenden Audio-Chipsätze unterstützen:

• Entspricht AC'97 2.3 Spezifikationen • 16-Bit Stereo-Vollduplex CODEC mit einer Samplingrate von 48MHz • Unterstützt bei der DVD-Audiowiedergabe die doppelte Samplingrate (96KHz) • Kompatibel mit Direct Sound 3D™
• Entspricht AC'97 2.3 Spezifikation, unterstützt 8-Kanal DACs • Entspricht den Leistungsanforderungen für Audio auf PC99/2001 Systemen • Entspricht den Microsoft WHQL/WLP 2.0 Audio-Anforderungen

Multi-Language Translation

Integriertes LAN (optional)

Dieses Mainboard kann einen der folgenden LAN-Chipsätze unterstützen:

• Unterstützt den Betrieb bei 10/100Mbps N-Way Auto-Negotiation • Unterstützt Wake-On-LAN-Funktion und Remote-Wake-up • Unterstützt LED-Pins für die Anzeige verschiedener Netzwerkaktivitäten • Unterstützt Vollduplex-Flusskontrolle (IEEE 802.3x)
• Enthält 10/100/1000 Transceiver • Unterstützung von PCI v2.3, 32-Bit, 33/66-MHz • Crossover Detection & Auto-Correction • Unterstützung für Wake-on-LAN und Remote Wake-up

1394a FireWire (Optional)

- Vollständige Entsprechung zu den Vorschriften des IEEE Std 1394-1995 für den Hochleistungs-Serial-Bus und IEEE Std 1394a-2000
- Zwei vollständig IEEE Std 1394a-2000 konforme Kabelports bei 400M Bits/s

Erweiterungsoptionen

Das Motherboard bietet die folgenden Erweiterungsoptionen:

- Ein PCI-Express x16 für eine Grafikschnittstelle
- Zwei PCI Express x1 Slots
- Drei 32-bit PCI v2.3-Steckplätze
- Zwei 40-Pin IDE Stecker, vier IDE-Kanäle unterstützen
- Ein Steckplatz für ein Diskettenlaufwerk
- Vier 7-Pin SATA-Stecker

Das Motherboard unterstützt UltraDMA Bus Mastering mit einer Übertragungsrate von 133/100/66/33 MB/Sek.

Integrierte I/O-Schnittstellen

Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:

- Zwei PS/2-Schnittstellen für Tastatur und Maus
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Vier VGA- Schnittstellen
- Eine 1394a-Schnittstelle (optional)
- Eine LAN-Schnittstelle (optional)
- Audiobuchsen für Mikrofon-in, Line-in und 8-Kanal Audioausgabe

BIOS Firmware

Dieses Motherboard setzt das AWARD BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden:

- Energieverwaltung
- Wake-up Alarm
- CPU-Parameter
- CPU- und Speichertiming

Mit der Firmware können auch Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.

Einige Hardware- und Software-Spezifikationen können jederzeit und ohne vorherige Ankündigung geändert werden.

Multi-Language Translation

Caratteristiche

Processore

RX480-A è dotata di una presa a 939 pin che offre le seguenti caratteristiche:

- Compatibilità con processori AMD Sempron/Athlon64/Athlon 64 FX
- Supporto di velocità di interfaccia HyperTransport™ (HT) fino a 2000 MT/s

La tecnologia HyperTransport™ consente il collegamento point-to-point fra due dispositivi e quindi un trasferimento di informazioni tra circuiti integrati molto più veloce di quanto sia possibile con le attuali tecnologie di interconnessione.

Chipset

I chipset RX480 Northbridge (NB) e SB400 Southbridge (SB) sono basati su un'innovativa architettura scalabile e offrono collaudata affidabilità e prestazioni comprovate.

RX480 (NB)

- 1 interfaccia Express A-Link x2 (espandibile a x4), conforme a PCI Express 1.0a, per collegamenti a ATI IXP
- Supporto di una PCI Express x16 per interfaccia grafica con conformità completa alla revisione 1.0a della specifica PCI Express Base
- Supporto completo di stati S1, S3, S4 e S5 ACPI.
- Supporto di soluzione Single chip in 0,13 micron, tecnologia 1.0-1.2v CMOS

SB400 (SB)

- Interfaccia A-Link Express a 2/4 vie (conforme a PCI Express 1.0a) ai protocolli IGP RADEON
- Conforme alla specifica PCI 2.2 a 33 MHz, con supporto di fino a 7 periferiche master bus
- Supporto di quattro periferiche ATA seriali, conforme alla specifica Serial ATA 1.0, compatibile con RAID 0 e RAID 1
- Controller host USB 2.0 integrato con supporto di fino a otto porte USB 2.0
- Controller IDE integrato con supporto di modalità Ultra DMA 133/100/66/33

Memoria

- Supporto di SDRAM DDR 400/333/266 con Dual Channel
- Compatibile con quattro DIMM senza buffer con una capacità massima di memoria di 4 GB

Audio (Opzionale)

La scheda madre offre supporto per i seguenti chipset audio

• Conforme alle specifiche AC'97 2.3 • CODEC full-duplex stereo a 16 bit con velocità di campionamento di 48 KHz • Supporto di velocità di campionamento doppia (96 KHz) per la riproduzione audio di DVD • Compatibile con Direct Sound 3D™
• Conforme alla specifica AC'97 2.3 con supporto di DAC a 8 canali • Conforme ai requisiti di prestazione audio su sistemi PC99/2001 • Conforme ai requisiti audio di WHQL e WLP 2.0 di Microsoft

Multi-Language Translation

LAN integrata (opzionale)

La scheda madre offre supporto per uno dei seguenti chipset LAN:

- Supporto di NWay Auto-negotiation a 10/100 Mbps
- Supporto di funzionalità Wake-On-LAN e riattivazione remota del sistema
- Supporto di pin LED per indicazioni di attività di rete
- Supporto di controllo flusso full duplex (IEEE 802.3x)

- Transceiver 10/100/1000 integrato
- Supporta PCI v2.3, 32-bit, 33/66-MHz
- Rilevazione e crossover e autocorrezione
- Supporto di funzionalità Wake-on-LAN e riattivazione remota

FireWire 1394a (Opzionale)

- Conformità completa a disposizioni IEEE Std 1394-1995 per bus seriale a elevate prestazioni e IEEE Std 1394a-2000
- Due porte cable a 400M bit/s conformi a IEEE Std 1394a-2000

Opzioni di espansione

La scheda madre è dotata delle seguenti opzioni di espansione:

- Un PCI Express x16 per interfaccia grafica
- Due slot PCI Express x1
- Tre slot PCI v2.3 a 32 bit
- Due connettori 40pin IDE per il supporto di fino a quattro dispositivi IDE
- Un'interfaccia per unità disco floppy
- Quattro connettori SATA a 7 pin

La scheda madre supporta bus master UltraDMA con tasso di trasferimento di 133/100/66/33 MB/s.

I/O integrati

La scheda madre offre una serie completa di porte e connettori I/O:

- Due porte PS/2 per mouse e tastiera
- Una porta seriale
- Una porta parallela
- Quattro porte USB
- Una porta 1394a (opzionale)
- Una porta LAN (opzionale)
- Prese jack audio per ingresso microfonico, line-in e uscita Audio a 8 canali

Firmware BIOS

La scheda madre si avvale del BIOS AWARD che consente la configurazione personalizzata di molte funzionalità del sistema, tra cui:

- Gestione dell'alimentazione
- Allarmi di attivazione
- Parametri CPU
- Sincronizzazione di CPU e memoria

Il firmware consente inoltre di impostare i parametri per diverse velocità di clock del processore.

Alcune specifiche hardware e voci di software possono essere modificate senza preavviso.

Multi-Language Translation

Característica

Procesador

La RX480-A usa un zócalo 939-pin que lleva las sigtes. características:

- Acomoda procesadores AMD Sempron/Athlon64/Athlon 64 FX
- Soporta hasta las velocidades de interfaz 2000MT/s HyperTransport™ (HT)

La Tecnología HyperTransport™ es un vínculo punto a punto entre dos dispositivos, habilita circuitos integrados para intercambiar la información en velocidades más rápidas que las tecnologías de interconexión disponibles actualmente.

Chipset

El chipset RX480 Northbridge (NB) y SB400 Southbridge (SB) se basan de una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

RX480 (NB)

- 1 interfaz x2 (expansible a x4) A-Link Express (conformidad PCI Express 1.0a) para conectar al ATI IXP
- Soporta un PCI Express x16 para la Interfaz de Gráficas, conformidad completa a la revisión de la Especificación Base de PCI Express 1.0a.
- Soporte completo de ACPI states S1, S3, S4 y S5.
- Soporta la solución de chip singular en la tecnología CMOS de 0.13 micron, 1.0-1.2v

SB400 (SB)

- Interfaz 2/4-lane A-Link Express (conformidad PCI Express 1.0a) a los RADEON IGPs
- Conformidad con la especificación PCI 2.3, hasta dispositivos másters de bus 7 soportados
- Cuatro dispositivos Serial ATA soportados, conformidad con la especificación Serial ATA 1.0, acomodando RAID 0 y RAID 1
- Controlador Anfitrión USB 2.0 integrado que soporta hasta ocho puertos USB 2.0
- Controlador IDE integrado que soporta los modos Ultra DMA 133/100/66/33

Memoria

- DDR 400/333/266 DDR SDRAM con soporte de Canal Dual
- Acomoda cuatro DIMMs sin buffer, hasta 4 GB de tamaño de memoria máximo

Audio (optativo)

Esta placa principal puede soportar cualquiera de los sigtes. chipset de Audio:

• Conformidad con las especificaciones AC'97 2.3 • CODEC de full-duplex estéreo de 16-bit con índice de muestreo de 48MHz • Soporta doble índice de muestreo (96KHz) de reproducción de audio DVD • Compatible con Direct Sound 3D™
• Conformidad de la especificación AC'97 2.3, que soporta 8-ch DACs • Satisface los requisitos de rendimiento para el audio en los sistemas PC99/2001 • Satisface los requisitos de audio de Microsoft WHQL/WLP 2.0

Multi-Language Translation

LAN Abordo (optativo)

Esta placa principal puede soportar uno de los sigtes. chipset LAN:

• Soporta operación de Autonegociación N-Way de 10/100Mbps • Soporta la función Wake-On-LAN y despertar remoto • Soporta pins de LED para varias indicaciones de actividad de red de trabajo • Soporta Full Duplex Flow Control (IEEE 802.3x)
• Transceptor 10/100/1000 integrado • Soporta PCI v2.3, 32-bit, 33/66-MHz • Detección Cruzada & Autocorrección • Soporte de Despertar-en-LAN y Despertar remoto

1394a FireWire (optativo)

- Conformidad total con las provisiones de IEEE Std 1394-1995 para un bus serial de alto rendimiento y IEEE Std 1394a-2000
- Dos puertos de cable con conformidad total de IEEE Std 1394a-2000 en 400M bits/s

Opciones de Expansión

La placa principal viene con las sigtes. opciones de expansión:

- Un PCI Express x16 para la Interfaz de Gráficas
- Dos ranuras PCI Express x1
- Tres ranuras conforme con 32-bit PCI v2.3
- Dos conectores 40-pin IDE que soporta hasta cuatro dispositivos
- Una interfaz de la unidad de disco floppy
- Cuatro conectores SATA de 7-pin

La placa principal soporta el mastering de bus UltraDMA con índices de transferencia de 133/100/66/33 MB/s.

I/O Integrado

La placa principal tiene un juego completo de puertos y conectores I/O:

- Dos puertos PS/2 para ratón y teclado
- Un puerto serial
- Un puerto paralelo
- Cuatro puertos USB
- Un puerto 1394a (optativo)
- Un puerto LAN (optativo)
- Clavijas de audios para la microphone in (entrada de micrófono), line-in (entrada de línea) y salida de audio de 8-canales

BIOS Firmware

La placa principal usa AWARD BIOS que habilita usuarios para configurar muchas características de sistema que incluyen las sigtes:

- Administración de Alimentación
- Alarmas para despertar
- Parámetros de CPU
- Cronometraje de CPU y de memoria

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

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

Multi-Language Translation

Características

Processador

O RX480-A usa uma ficha de 939 pinos que comporta as seguintes características:

- Acomoda processadores AMD Sempron/Athlon64/Athlon 64 FX
- Suporta velocidades de interface de HyperTransportTM (HT) até 2000MT/s

Tecnologia de HyperTransport™ Té um link ponto-a-ponto entre dois dispositivos, permite circuitos integrados para trocar informação a velocidades muito mais elevadas que as disponíveis actualmente em tecnologias de interconexão.

Conjunto de Chips

O conjunto de chips RX480 Northbridge (NB) e SB400 Southbridge (SB) é baseado numa arquitectura inovadora e escalável com fiabilidade e performance provadas.

RX480 (NB)

- 1 x2 (expansível para x4) interface A-Link Express (compatível com PCI Express 1.0a) para ligação ao ATI IXP
- Suporta um PCI Express x16 para Interface de Gráficos, cumpre totalmente com a revisão 1.0a. da Especificação de Base de PCI Express.
- Suporta na totalidade estados ACPI S1, S3, S4 e S5.
- Suporta solução de chip único em 0.13 micron, tecnologia 1.0-1.2v CMOS

SB400 (SB)

- Interface 2/4-lane A-Link Express (compatível com PCI Express 1.0a) para RADEON IGPs
- Cumpre com a especificação 2.3 PCI, suporta até 7 dispositivos bus mestre
- Suporta quatro dispositivos ATA de Série, cumprindo com a especificação 1.0 ATA de Série, RAID 0 e RAID 1 acomodados
- Controlador Host 2.0 USB Integrado suportando até oito portas USB 2.0
- Controlador IDE integrado que suporta modos Ultra DMA 133/100/66/33

Memória

- DDR 400/333/266 DDR SDRAM com suporte de Bicanal
- Acomoda quatro DIMMs sem buffers, com até 4 GB de limite de memória máxima

Áudio (opcional)

Esta motherboard pode suportar qualquer um dos seguintes conjuntos de chips Áudio.

• Cumpre com as especificações AC'97 2.3 • CODEC duplex total Estéreo de 16 bits com taxa de amostragem de 48MHz • Suporta taxa de amostragem dupla (96KHz) de reprodução áudio DVD • Compatível com Direct Sound 3D™
• Compatível com a especificação AC'97 2.3, suportando 8-ch DACs • Cumpre com os requisitos de performance para áudio em sistemas PC99/2001 • Cumpre com os requisitos áudio WHQL/WLP 2.0 da Microsoft audio

Multi-Language Translation

Onboard LAN (opcional)

Esta motherboard poderá suportar qualquer um dos seguintes conjuntos de chips LAN:

• Suporta operação de Auto-negociação N-Way 10/100Mbps • Suporta função LAN de Despertar e despertar remoto • Suporta pinos LED para várias indicações de actividade de rede • Suporta Controlo de Fluxo Duplo Completo (IEEE 802.3x)
• Transreceptor integrado 10/100/1000 • Suporta PCI v2.3, 32-bit, 33/66-MHz • Detecção Crossover & Auto Correcção • Suporte Wake-on-LAN e wake-up remoto

1394a FireWire (opcional)

- compatível com provisões de IEEE Std 1394-1995 para um bus de série de elevada performance e IEEE Std 1394a-2000
- Duas portas para cabo totalmente compatíveis com IEEE Std 1394a-2000 a 400M bits/s

Opções de Expansão

A motherboard é fornecida com as seguintes opções de expansão:

- Um PCI Express x16 para Interface de Gráficos
- Duas ranhuras 1 x PCI Express
- Três ranhuras compatíveis com PCI v2.3 de 32 bits
- Dois conectores IDE 40 pinos, que suportam até quatro dispositivos IDE
- Um interface com drive de disco flexível
- Quatro conectores SATA de 7 pin

A motherboard suporta um domínio bus UltraDMA bus com taxas de Transferência de 133/100/66/33 MB/s.

I/O Integrado

A motherboard possui um conjunto completo de portas I/O e conectores:

- Duas portas PS/2 para rato e teclado
- Uma porta de série
- Uma porta paralela
- Quatro portas USB
- Uma porta 1394a (opcional)
- Uma porta LAN (opcional)
- Fichas áudio para entrada de microfone, entrada e saída de Áudio 8-ch

Microprogramação BIOS

Esta motherboard usa AWARD BIOS que permitem aos utilizadores configurar muitas características do sistema incluindo as seguintes:

- Gestão de corrente
- Alarmes de despertar
- Parâmetros CPU
- Temporização de memória e CPU

A microprogramação poderá ser também usada para estabelecer parâmetros para diferentes velocidades de relógio do processador.

Algumas especificações de hardware e itens de software poderão ser sujeitos a alteraçõessem aviso prévio.

Multi-Language Translation

機能

プロセッサ

RX480-A が採用した939ピン仕様のソケットは、次の特徴があります：

- AMD Sempron/Athlon64/Athlon 64 FX プロセッサの搭載に対応
- 転送率が最大2000MT/秒までの HyperTransport™ (HT)インターフェースを採用

HyperTransport™技術とは、二つのデバイスを1対1(point-to-point)で接続する技術であり、従来のインターコネクト技術に比較して、集積回路同士の情報交換を高速化します。

チップセット

RX480 Northbridge (NB)と SB400 Southbridge (SB)チップセットは、実証された信頼性と性能を持つ革新的で拡張性のあるアーキテクチャに基づいています。

RX480 (NB)

- 1つの x2 (x4に拡張可能) A-Link Express インターフェース (PCI Express 1.0a に対応)でATI IXPに接続
- グラフィックインターフェースとなる PCI Express x16 インターフェースを搭載し、それでPCI Express Base Specification revision 1.0aに完全対応
- ACPI の S1、S3、S4 および S5の電源管理状態に完全対応
- 0.13ミクロンの1.0-1.2v CMOS 技術導入のシングルチップソリューションをサポート

SB400 (SB)

- 2/4-レインのA-Link Express インターフェース (PCI Express 1.0a に準拠) でRADEON IGPに対応
- PCI 2.3 規格に対応し、最大7つまでのマスター装置の取り付けを可能に
- 4つまでのSerial ATA 装置をサポートし、Serial ATA 1.0 規格に対応しており、且つRAID 0 とRAID 1 の機能を提供
- 内蔵のUSB 2.0 ホストコントローラで最大8つまでのUSB 2.0ポートをサポート
- 内蔵のIDEコントローラでUltra DMA 133/100/66/33の諸モードをサポート

メモリ

- デュアルチャネルのDDR 400/333/266 DDR SDRAMを採用
- 搭載されている4つの非バッファーDIMMで最大4 GBまでのメモリーの取り付けを可能に

オーディオ（オプション）

本マザーボードは次のオーディオチップセットの何れかをサポートします：

• AC'97 2.3 規格に準拠 • 48MHzサンプリングレートの16ビットステレオ全二重CODEC • DVD音声再生のダブルサンプリングレート(96KHz)に対応 • Direct Sound 3D™ に対応
• AC'97 2.3 規格に準拠で、8-ch のDACをサポート • PC99/2001 システムに関するオーディオ要求に適合 • Microsoft WHQL/WLP 2.0 オーディオ要求に適合

Multi-Language Translation

オンボードLAN（オプション）

当マザーボードは次のLANチップセットのいずれかを搭載しております：

- 10/100Mbps N-way自動ネゴシエーション操作をサポート
- Wake-On-LANと遠隔wake-up機能をサポート
- ネットワーク状態インジケータ用のLEDピンを搭載
- 全二重フロー制御（IEEE 802.3x）をサポート

- 10/100/1000 トランシーバーを搭載済み
- PCI v2.3, 32-bit, 33/66-MHzへの対応
- クロスオーバー検出機能と自動修正機能を搭載
- Wake-on-LANと遠隔 wake-upとの機能をサポート

1394a Fire Wire（オプション）

- "IEEE Std 1394-1995 for a high-performance serial bus and IEEE Std 1394a-2000"の基準に完全対応
- IEEE Std 1394a-2000 完全対応の2つのポートのそれぞれが400M bits/秒の転送率を実現

拡張オプション

本マザーボードでは、次の拡張機能が利用できます。

- グラフィック用のPCI Express x16 インターフェース が1つ
- PCI Express x1 スロットが2つ
- 32ビットPCI v2.3 互換性スロット が3つ
- 40ピンIDEロープロフィルヘッダー（4つのIDEチャネルをサポート）が2つ
- フロッピーディスクドライブインターフェイス が1つ
- 7ピンSATAコネクタ が4つ

このマザーボードは、133/100/66/33MB/秒の転送速度でのUltra DMA/バスマスタリングをサポートします。

統合の入出力ポート

マザーボードには、次のI/Oポートやコネクタを揃えています。

- マウスとキーボード用のPS/2ポート が2つ
- シリアルポート が1つ
- パラレルポート が1つ
- USBポートが4つ
- 1394a ポート が1つ（オプション）
- LANポート が1つ（オプション）
- マイクロホン入力、ライン入力、および8-chのオーディオ出力の諸オーディオジャックを搭載済み

BIOSファームウェア

本マザーボードはAWARD BIOSを採用し、次の機能を含む多様なシステムの構成ををサポートします。

- 電源管理
- ウェークアップアラーム
- CPUパラメータ
- CPUとメモリとのタイミング

さらに、所定のパラメータを設定することによって、プロセッサのクロック速度を変更することもできます。

一部のハードウェア仕様とソフトウェアアイテムは、予告なしに変更することがあります。

Multi-Language Translation

특성

프로세서

RX480-A 는 939 핀 소켓을 사용하여 다음과 같은 특성을 지닌다:

- AMD 샘프론/애슬론64/애슬론 64 FX 프로세서 사용
- HyperTransport™ (HT) 인터페이스 속도 최대 2000MT/s 지원

HyperTransport™ 기술은 두 장치간의 point-to-point 링크로, 집적 회로가 기존의 상호 연결 기술 보다 더 빠른 속도로 정보를 교환할 수 있다.

칩셋

RX480 Northbridge (NB) 및 SB400 Southbridge (SB) 칩셋은 혁신적이고 범위성을 지닌 아키텍처를 기반으로 인정된 신뢰성과 성능을 지닌다.

RX480 (NB)

- ATI IXP 연결을 위한 1 x2 (x4 확장 가능) A-Link Express 인터페이스 (PCI Express 1.0a 부합)
- 그래픽 인터페이스로 1 개의 PCI Express x16 지원, PCI Express Base 사양 1.0a 부합.
- ACPI states S1, S3, S4 및 S5 지원.
- 0.13 micron, 1.0-1.2v CMOS 테크놀로지의 싱글 칩 솔루션 지원

SB400 (SB)

- RADEON IGPs 용 2/4-lane A-Link Express 인터페이스 (PCI Express 1.0a 부합)
- PCI 2.3 사양 부합, 최대 7 개의 버스 마스터 장치 지원
- 4 개의 시리얼 ATA 장치 지원, 시리얼 ATA 1.0 사양 부합, RAID 0 및 RAID 1
- 최대 8 개의 USB 2.0 포트를 지원하는 통합 USB 2.0 호스트 컨트롤러
- Ultra DMA 133/100/66/33 모드를 지원하는 통합 IDE 컨트롤러

메모리

- DDR 400/333/266 DDR SDRAM, 듀얼 채널 지원
- 4 개의 unbuffered DIMMs, 최대 메모리 크기 4 GB

오디오

본 마더보드는 다음의 오디오 칩셋을 지원합니다.

• AC'97 2.3 사양 부합 • 48MHz 샘플링 속도를 지닌 16 비트 스테레오 풀-듀플렉스 코덱 • DVD 오디오 재생 시 더블 샘플링 속도 (96KHz) 지원. • Direct Sound 3D™ 호환
• AC'97 2.3 사양 부합, 8 채널 DACs 지원 • PC99/2001 시스템의 오디오를 위한 퍼포먼스 요구 조건 부합 • 마이크로소프트 WHQL/WLP 2.0 오디오 요구 조건 부합

Multi-Language Translation

보드 내장 LAN (선택 사항)

본 마더보드는 다음과 같은 LAN 칩셋을 지원합니다:

- 10/100Mbps N-Way Auto-negotiation 작업 지원
- Wake-On-LAN 기능 및 원격 wake-up 지원
- 다양한 네트워크 활동을 표시하는 LED 핀 지원
- Full Duplex Flow Control (IEEE 802.3x) 지원

- 통합 10/100/1000 트랜시버
- PCI v2.3, 32-bit, 33/66-MHz 지원
- Crossover Detection 및 Auto-Correction
- Wake-on-LAN 및 원격 wake-up 지원

1394a 파이어 와이어(선택 사항)

- 고성능 시리얼 버스를 위한 IEEE Std 1394-1995 및 IEEE Std 1394a-2000 부합
- 400M bits/s 속도로 케이블 포트에 부합하는 2 개의 IEEE Std 1394a-2000

확장 옵션

본 마더보드의 확장 옵션은 다음과 같다:

- 그래픽 인터페이스를 위한 PCI 익스프레스 x16 1 개
- PCI Express 2 개 x 슬롯1 개
- 32 비트 PCI v2.3 호환 슬롯 3 개
- 최대 4개의 IDE 장치를 지원하는 40핀IDE 커넥터 2 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 4 개

마더보드는 전송 속도 133/100/66/33 MB/s의 UltraDMA 버스 마스터링을 지원한다.

통합 I/O

본 마더보드는 풀 셋트의 I/O 포트 및 커넥터가 있다:

- 마우스 및 키보드용 PS/2 포트 2 개
- 시리얼 포트 1 개
- 패러럴 포트 1 개
- USB 포트 4 개
- 1394a 포트 1 개 (선택 사항)
- LAN 포트 1 개 (선택 사항)
- 마이크폰 입력, 라인 입력 및 8 채널 오디오 출력 용 오디오 잭

BIOS 펌웨어

본 마더보드는 다음과 같은 시스템 특성을 구성할 수 있는 Award BIOS 를 사용한다:

- 전원 관리
- Wake-up 알람
- CPU 파라미터
- CPU 및 메모리 타이밍

펌웨어로 다른 프로세서 클록 속도의 파라미터를 설정할 수도 있다.

몇 하드웨어 사양 및 소프트웨어 아이템은 사전 통보 없이 변경될 수 있습니다.

Multi-Language Translation

功能

處理器

RX480-A採用1個939針插槽，該插槽具有如下特徵：

- 可安裝AMD Sempron/Athlon64/Athlon 64 FX 處理器
- 支援高達2000MT/秒的HyperTransport™ (HT)介面傳輸速率

HyperTransport™技術爲以點對點方式連接兩台設備的技術，藉此，積體電路間能夠以後高於現有各種內部連接技術(interconnect technology)技術的速度來交換資訊。

晶片組

RX480 北橋(NB)及SB400 南橋(SB)晶片組在研發設計上採用了創新且具擴充性之架構，具備優良的可靠性及性能。

RX480 (NB)

- 1個 2倍速 (可擴充至4倍速) A-Link Express介面 (PCI Express 1.0a 相容) 以連接ATI IXP
- 支援1個繪圖介面用之PCI Express x16，完全符合PCI Express Base規格修訂版1.0a
- 完全支援 ACPI 的S1、S3、S4、及S5的狀態
- 支援有關0.13微米1.0-1.2v CMOS技術之單晶片解決方案

SB400 (SB)

- 以2/4通道之A-Link Express 介面 (相容於PCI Express 1.0a)連接RADEON IGP
- 符合PCI 2.3 規格，支援高達7匯流排主控裝置
- 支援4個Serial ATA裝置，符合Serial ATA 1.0 規格，並提供RAID 0 及RAID 1功能
- 整合有USB 2.0主控器，可支援至8個USB 2.0埠
- 整合有IDE 控制器，可支援 Ultra DMA 133/100/66/33模式

記憶體

- 採用雙通道DDR 400/333/266 DDR SDRAM
- 設有4個非緩衝DIMM，最多可安裝4 GB記憶體

音頻(選購)

本主機板支援如下音訊晶片組的其中之一：

• 相容於AC'97 2.3 規格 • 16位元立體聲全雙工CODEC，取樣率48MHz • 支援DVD音訊播放的雙取樣率(96KHz) • Direct Sound 3D™ 相容
• 相容於AC' 97 2.3 規格，藉此支援8-ch DAC • 符合PC99/2001系統音訊標準要求 • 符合Microsoft WHQL/WLP 2.0 音訊標準

Multi-Language Translation

內建區域網路（選購）

本主機板搭載有如下其中一種LAN晶片組：

- 支援 10/100Mbps N-way 自動協調作業
- 支援區域網路喚醒(Wake-On-LAN)及遠端喚醒功能
- 配有各種網路活動指示器用之LED接腳
- 支援全雙工流量控制(IEEE 802.3x)

- 整合有10/100/1000 收發器
- 支援PCI v2.3, 32位元, 33/66-MHz
- 具有跳接線偵測及自動修正功能
- 支援區域網路喚醒功能及遠距喚醒功能

1394a Fire Wire（選購）

- 完全支援"IEEE Std 1394-1995 for a high-performance serial bus 及 IEEE Std 1394a-2000" 規格
- 2個IEEE Std 1394a-2000連接埠，傳輸速率達400M bits/秒

擴充選項

本主機板包括下列擴充選項：

- 1 個繪圖卡用PCI Express x16 介面
- 2 個PCI Express x1 槽
- 3 個32位元PCIv2.3插槽
- 2 個40針 IDE 接頭，支援 4個 IDE 裝置
- 1 個軟碟機介面
- 4 個7針SATA插頭

本主機板支援傳輸率133/100/66/33 MB/秒下的Ultra DMA 匯流排主控功能。

整合 I/O

主機板具有一組齊全的 I/O 連接埠及連接頭：

- 2 個 PS/2 埠，供滑鼠與鍵盤使用
- 1 個串列埠
- 1 個平行埠
- 4 個USB埠
- 1 個1394a 埠(選購)
- 1 個區域網路埠(選購)
- 麥克風輸入、線級輸入、及8聲道音訊輸出等用之音訊插孔

BIOS 韌體

本主機板使用AWARD BIOS，使用者可以組態設定許多系統功能，包括如下：

- 電源管理
- 喚醒警鈴
- CPU參數
- CPU及記憶體的時脈定時

此外，也可藉由參數的設定，調整處理器的時脈速度。

部份硬體規格和軟體內容可能會在未經通知的情況下更動，敬請見諒。

Multi-Language Translation

功能

处理器

RX480-A 主板使用一个 939-pin 插座，此插座具有以下特点：

- 支持 AMD Sempron/Athlon64/Athlon 64 FX 处理器
- 支持 2000MT/s HyperTransport™ (HT) 接口速度

HyperTransport™ 技术是一种在两台设备间进行点到点连接的技术，它可以让集成电路使用比当前互连技术更高的速度进行信息交换。

芯片组

RX480 北桥 (NB) 和 SB400 南桥 (SB) 芯片组是基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。

RX480 (NB)

- 1 x2 (可扩展到 x4) A-Link Express 接口（符合 PCI Express 1.0a 标准）用于连接到 ATI IXP
- 支持 1 个 PCI Express x16 用于图形接口，完全符合 PCI Express Base 规格 1.0a。
- 完全支持 ACPI 状态 S1、S3、S4 和 S5
- 支持 0.13 微米单芯片解决方案，1.0-1.2v CMOS 技术

SB400 (SB)

- 到 RADEON IGP 的 2/4-lane A-Link Express 接口（符合 PCI Express 1.0a 标准）
- 符合 PCI 2.3 规格，最多支持 7 个总线设备
- 支持 4 个串行 ATA 设备，符合串行 ATA 1.0 规格，支持 RAID 0 和 RAID 1
- 集成 USB 2.0 主控器，最多支持 8 个 USB 2.0 端口
- 集成 IDE 控制器，支持 Ultra DMA 133/100/66/33 模式

内存

- DDR 400/333/266 DDR SDRAM 双通道支持
- 支持 4 个非缓冲 DIMM，内存最大支持 4 GB

音频（可选）

此主板支持以下任何一种音频芯片组

- 兼容 AC'97 v2.3 规格
- 具有 48MHz 采样速率的 16 位全双工 CODEC（编解码器）
- 支持 DVD 音频播放的双采样速率 (96KHz)
- 符合 Direct Sound 3D™ 规格

- 符合 AC' 97 2.3 规格，支持 8 路 DAC
- 符合 PC99/2001 系统音频要求
- 符合 Microsoft WHQL/WLP 2.0 音频要求

Onboard LAN（可选）

此主板支持以下任何一种 LAN 芯片组：

- 支持 10/100Mbps N 路自协商工作
- 支持 LAN 唤醒 (WOL) 功能和远程唤醒功能
- 支持用于各种活动指示灯的 LED 管脚
- 支持全双工流控制 (IEEE 802.3x)

- 支持 10/100/1000 Mbps 速度工作（10/100 Mbps 可选）
- 支持 PCI v2.3，32-位，33/66-MHz
- 跨接检测和自动校正
- 支持 LAN 和远程唤醒

Multi-Language Translation

1394a 火线（可选）

- 完全符合用于高性能串行总线的 IEEE Std 1394-1995 和 IEEE Std 1394a-2000
- 2 个符合 IEEE Std 1394a-2000 标准的电缆端口，传输速率可达 400M bits/s

扩展选项

此主板提供如下扩展选项：

- 1 个用于图形接口的 PCI Express x16
- 2 个 PCI Express x1 插槽
- 3 个 32 位 PCI v2.3 扩展槽
- 2 个 40-pin IDE 接口，可支持 4 个 IDE 设备
- 1 个软驱接口
- 4 个 7-pin SATA 接口

主板支持 Ultra DMA 总线控制，传输速率可达 133/100/66/33MB/s。

集成 I/O

此主板具有完整的 I/O 端口和插孔：

- 2 个用于连接鼠标和键盘的 PS/2 端口
- 1 个串口
- 1 个并口
- 4 个 USB 端口
- 1 个 1394a 端口（可选）
- 1 个 LAN 端口（可选）
- 用于麦克风入、线入和 8 声道音频输出的音频插孔

BIOS

此主板使用 AWARD BIOS，可以让用户自己配置以下系统功能：

- 电源管理
- 唤醒报警
- CPU 参数
- CPU 和记忆定时

还可用于设置不同处理器时钟速度的参数。

某些硬件规格和软件项目若有更改恕不另行通知。

Multi-Language Translation

Характеристики

Процессор

Плата RX480-A использует 939-штырьковый сокет и обладает следующими характеристиками:

- Размещает процессоры AMD Sempron/Athlon64/Athlon 64 FX
- Поддерживает технологию 2000MT/s HyperTransport™ (HT)

Технология HyperTransport™ обеспечивает связь двух устройств по протоколу point-to-point, позволяя гораздо более быстрый обмен информацией между интегральными микросхемами, чем тот, который обеспечивается существующими технологиями.

Чипсет

Чипсеты RX480 «Северный мост» (Northbridge, NB) и SB400 «Южный мост» (Southbridge, SB) построены с использованием инновационной масштабируемой архитектуры, обеспечивающей высокую надежность и производительность.

RX480 (NB)

- Один разъем A-Link Express x2 (с возможностью расширения до x4) (совместимый с PCI Express 1.0a) для подключения ATI IXP
- Поддерживает одну шину PCI Express x16 для графического интерфейса, полностью совместима со спецификацией PCI Express Base 1.0a.
- Полностью поддерживает ACPI в режимах S1, S3, S4 и S5.
- Поддерживает одночипную технологию 0.13 микрон, 1.0-1.2v CMOS

SB400 (SB)

- Интерфейс 2/4-lane A-Link Express (совместимость с PCI Express 1.0a) для RADEON IGP
- Совместимость со спецификацией PCI 2.3, поддержка до 7 устройств типа master
- Поддержка четырех устройств Serial ATA, совместимость со спецификацией Serial ATA 1.0, размещение RAID 0 и RAID 1
- Встроенный контроллер хоста USB 2.0 с поддержкой до восьми портов USB 2.0
- Встроенный контроллер IDE с поддержкой режимов Ultra DMA 133/100/66/33

Память

- DDR 400/333/266 DDR SDRAM с поддержкой двухканального режима
- Размещает четыре модуля небуферируемой памяти DIMM с максимальным объемом памяти до 4 ГБ

Аудио (опционально)

Эта материнская плата может обслуживать люой из следующих аудио чипсетов:

• Совместимость со спецификацией AC'97 2.3 • 16-битный стерео CODEC (полный дуплекс) с частотой сэмплирования 48 МГц • Поддержка двойной скорости сэмплирования аудиовыхода DVD (96 кГц) • Совместимость с Direct Sound 3D™
• Совместимость со спецификацией AC'97 2.3, поддержка 8-канальных DAC • Соответствие требованиям для аудио в системах PC99/2001 • Соответствие требованиям для аудио Microsoft WHQL/WLP 2.0

Multi-Language Translation

Встроенный сетевой адаптер LAN (опционально)

Встроенный сетевой адаптер LAN обладает следующими характеристиками:

- Поддерживает автоматическое определение скорости и режима соединения 10/100Mbps
- Поддерживает функции Wake-On-LAN и remote wake-up
- Поддержка светодиодов для индикации различной активности в сети
- Поддерживает режим управления потоком Full Duplex Flow Control (IEEE 802.3x)

- Интегрированный трансивер 10/100/1000
- Поддержкжа PCI v2.3, 32-бит, 33/66-МГц
- Детекция и автокоррекция Crossover
- Функция Wake-on-LAN и удаленного пробуждения

1394 Fire Wire(опционально)

- Полная совместимость с требованиями стандарта IEEE Std 1394-1995 для скоростных серийных шин и стандарта IEEE Std 1394a-2000
- Два кабельных порта, совместимых с IEEE Std 1394a-2000, со скоростью передачи 400M бит/с

Возможности расширения

Существуют следующие опции расширения данной материнской платы:

- Один разъем для карты графики PCI Express x16
- Два слота PCI Express x1
- Три 32-битных слота PCI v2.3
- Два разъема 40-штырьковый IDE с поддержкой до четырех устройств IDE
- Один разъем для накопителя на гибких дисках
- Четыре разъема 7-pin SATA

Плата поддерживает технологию захвата управления шиной UltraDMA bus mastering со скоростью передачи данных 133/100/66/33 МБ/сек.

Интегрированный вход/выход

Плата снабжена полным набором портов входа/выхода и разъемов:

- Два порта PS/2 для подключения мыши и клавиатуры
- Один серийный порт
- Один параллельный порт
- Четыре порта USB
- Один порт 1394a (опционально)
- Один порт LAN (опционально)
- Гнезда аудио для микрофона, входа и 8-канального выхода

BIOS

Плата работает под AWARD BIOS, который позволяет пользователю конфигурировать различные характеристики системы:

- Управление питанием
- Сигналы пробуждения системы
- Параметры CPU
- Время доступа для CPU и памяти

BIOS допускает также установку параметров для различных частот процессора.

Некоторые параметры платы и характеристики ее программного обеспечения могут быть изменены без предварительного уведомления.

Multi-Language Translation

Cechy

Procesor

Płyta główna RX480-A dostosowana jest do 939-nóżkowego gniazda i posiada następujące właściwości:

- Obsługuje procesory firmy AMD typu Sempron/Athlon64/Athlon 64 FX
- Obsługuje złącze HyperTransport™ (HT) z szybkością do 2000MT/s

Technologia HiperTransportu ™ jest protokołem komunikacji między dwoma urządzeniami, który umożliwia układom zcalonym wymieniać informację z dużo większymi szybkościami niż dotychczas stosowane technologie wzajemnych połączeń.

Chipset

Mostek północny (NB) RX480 i mostek południowy (SB) SB400 chipsetu oparty jest na nowatorskiej i skalowalnej architekturze o sprawdzonej niezawodności i funkcjonalnoœci.

RX480 (NB)

- 1 złącze x2 (rozszerzalne do x4) A-Link Express (zgodne ze standardem PCI Express 1.0a) służące do podłączenia ATI IXP
- Obsługuje jedno graficzne złącze PCI Express x16, w pełni zgodne ze standardem PCI Express Base w wersji 1.0a.
- Całkowicie obsługuje ACPI w trybach S1, S3, S4 i S5
- Obsługuje pojedyncze układy wykonane w technologii CMOS 0.13 mikrona, 1.0-1.2v

SB400 (SB)

- Interfejs 2/4-lane A-Link Express (zgodny z PCI Express w wersji 1.0a) dla RADEON IGP
- Zgodne ze standardem PCI w wersji 2.3 obslugujące do 7 urządzeń bus master
- Obslugująca cztery urządzenia Serial ATA, zgodne ze standardem Serial ATA wersja 1.0, przystosowana do RAID 0 i RAID 1
- Zintegrowany kontroler USB 2.0 obslugujący do do ośmiu gniazd USB 2.0
- Zintegrowany kontroler IDE obsługujący tryby pracy Ultra DMA 133/100/66/33

Pamięć

- DDR 400/333/266 DDR SDRAM z obsługą dwu kanałów
- Przystosowana do obsługi cztery banków niebuforowanej pamięci DIMM o pojemności do 4 GB.

Audio (opcjonalnie)

Ta płyta główna może obsługiwać dowolny z następujących chipsetów audio:

• Zgodne ze specyfikacją AC'97 w wersji 2.3 • 16 bitowe full-duplex CODEC z częstotliwością próbkowania 48MHz. • DVD audio playback obsługuje z podwójną częstotliwością próbkowania (96KHz) • Zgodny z Direct Sound 3D™
• Zgodny ze specyfikacją AC'97 w wersji 2.3, obsługuje 8 kanałów DAC • Spełnia wymagania dla audio w systemie PC99/2001 • Spełnia wymagania stawiane audio przez firmę Microsoft w systemie WHQL/WLP 2.0

Multi-Language Translation

Zintegrowana obsługa sieci LAN (opcjonalnie)

Zintegrowana obsługa sieci LAN posiada następujące właściwości:

- Obsluguje N-drożne automatycznie ustalane operacje z szybkościami 10/100Mbps
- Obsługuje funkcję Wake-On-LAN i zdalnie sterowane wake-up (uruchamianie komputera)
- Obsługuje diody świetlne sygnalizujące różne aktywności w sieci
- Obsługuje Full Duplex Flow Control (zgodnie ze standardem IEEE 802.3x)

- Zintegrowany terminal nadawczo-odbiórczy 10/100/1000
- Obsluguje 32 bitowe PCI w wersji 2.3 o częstotliwościach 33/66-MHz
- Detekcja Crossover i autokorekcja
- Obsługuje Wake-on-LAN i zdalne wake-up

1394a FireWire (opcjonalnie)

- W pełni zgodna z zabezpieczeniem standardu IEEE 1394-1995 dla wysokiej wydajności szyny szeregowej oraz standardu IEEE 1394a-2000
- Dwa złącza całkowicie zgodne ze standardem IEEE 1394a-2000 o szybkości przesyłania 400M bits/s

Możliwości rozbudowy

Płyta główna wyposażona jest w następujące gniazda:

- Jedno gniazdo PCI Express x16 dla karty graficznej
- Dwa gniazda typu PCI Express x1
- Trzy 32-bitowych gniazda zgodnych z PCI w wersji 2.3
- Dwa 40-nóżkowe złącza IDE mogące obsłużyć do czterech urządzeń IDE
- Jedno złącze obsługujące stacje dyskietek
- Cztery 7-nóżkowe złącza SATA

Płyta główna obsługuje szynę UltraDMA z szybkością transferu 133/100/66/33 MB/s.

Zintegrowane We/Wy

Płyta główna wyposażona jest w pełny zestaw gniazd i złączy We/Wy:

- Dwa gniazda PS/2 dla myszy i klawiatury
- Jedno gniazdo szeregowe
- Jedno gniazdo równoległe
- Cztery gniazda USB
- Jedno gniazdo 1394a (opcjonalnie)
- Jedno gniazdo LAN (opcjonalnie)
- Gniazda audio typu jack wejście dla mikrofonu, gniazdo wejściowe i wyjściowe audio, 8 kanałów.

Firmowy BIOS

Płyta główna wyposażona jest w BIOS firmy AWARD, który pozwala użytkownikowi konfigurować wiele cech systemu włączając w to następujące właściwości:

- Zarządzanie poborem mocy
- Alarmy typu Wake-up
- Parametry pracy procesora
- Ustalenia szybkoœci pracy procesora i pamiêci

BIOS może być używany do ustalania parametrów wpływających na szybkości pracy zegara procesora.

Niektóre parametry dotyczące płyty i jej oprogramowania mogą ulec zmianie bez uprzedniego powiadomienia.

Multi-Language Translation

Vlastnosti

Procesor

Základní deska RX480–A využívá 939kolíkovou patici nabízející následující vlastnosti:

- Podpora procesorů AMD Sempron/Athlon64/Athlon 64 FX
- Podpora rychlostí rozhraní HyperTransport™ (HT) až 2000 MT/s

Technologie HyperTransport ™ je přímým spojením mezi dvěma zařízeními, umožňující integrovaným obvodům výměnu informací vyššími rychlostmi, než jaké nabízejí současné technologie.

Čipová sada

Čipy northbridge (NB) RX480 a southbridge (SB) SB400 jsou založeny na inovativní a škálovatelné architektuře s ověřenou spolehlivostí a výkonností.

RX480 (NB)

- 1 x2 (rozšířitelné až na x4) rozhraní A–Link Express (splňuje požadavky standardu PCI Express 1.0a) pro připojení k ATI IXP
- Podpora jednoho rozhraní PCI Express x16 pro grafiku, zcela splňující základní požadavky standardu PCI Express, revize 1.0a.
- Plná podpora ACPI stavy S1, S3, S4 a S5.
- Podpora řešení v jediném čipu s technologií 0,13 mikronů, 1,0–1,2 V CMOS

SB400 (NB)

- 2/4kanálové rozhraní A–Link Express (splňuje požadavky standardu PCI Express 1.0a) pro RADEON IGP
- Splňuje požadavky standardu PCI 2.3 s podporou až 7 hlavních kanálů
- Podpora čtyř sériových rozhraní ATA, splňuje požadavky standardu Serial ATA 1.0, součástí jsou řadiče RAID 0 a RAID 1
- Integrované hostitelské řadiče USB 2.0 podporující až osm portů
- Integrovaný řadič IDE podporující Ultra ATA s režimy 133/100 /66/33

Paměť

- Paměti DDR 400/333/266 DDR SDRAM s dvoukanálovým přenosem
- Podpora ctyři modulů DIMM bez vyrovnávací paměti s maximální kapacitou 4 GB

Zvuk (volitelné)

Tato základní deska může podporovat některou z následujících zvukových čipových sad:

• Splňuje požadavky standardu AC'97 2.3 • 16bitový stereo plnì duplexní kodek se vzorkovací frekvencí 48 MHz • Podpora dvojnásobné vzorkovací frekvence (96 kHz) pro přehrávání DVD audio • Kompatibilita s Direct Sound 3D™
• Splňuje požadavky standardu AC'97 2.3, podpora 8kanálového D/A převodníku • Splňuje výkonnostní požadavky pro audio zařízení na systémech PC99/2001 • Splňuje požadavky pro audio zařízení Microsoft WHQL/WLP 2.0

Multi-Language Translation

Vestavění síťové rozhraní LAN (volitelně)

Vestavěné síťové rozhraní LAN nabízí následující možnosti:

- Podpora 10/100Mbps N–cestného automatického přepínání provozu
- Podpora funkce Wake–On–LAN a aktivace na dálku
- Podpora kolíků LED pro různou indikaci síťové činnosti
- Podpora plně duplexního řízení toku dat (IEEE 802.3x)

- Integrovaný transceiver 10/100/1000
- Podpora rozhraní PCI v2.3, 32bitové, 33/66 MHz
- Detekce přeslechu a automatická korekce
- Podpora funkce Wake–on–LAN (WOL) a vzdálené aktivace

1394a FireWire (volitelné)

- Plná podpora standardu IEEE 1394–1995 pro vysokovýkonnou sériovou sběrnici a IEEE standard 1394a–2000
- Dva kabelové porty podle standardu IEEE 1394a–2000 s rychlostí až 400 Mb/s

Možnosti rozšíření

Základní deska je dodávána s následujícími možnostmi rozšíření

- Jedna patice PCI Express x16 pro grafickou kartu
- Dvě patice PCI Express x1
- Tři 32bitové patice PCI v2.3
- Dva 40kolíkový konektor IDE podporující až čtyři zařízení IDE
- Jedno rozraní pro disketovou mechaniku
- Čtyři 7kolíkové konektor SATA

Základní deska podporuje sběrnici Ultra DMA s přenosovými rychlostmi 133/100/66/33 MB/s.

Integrovaný vstup/výstup

Základní deska je vybavena kompletní sadou vstupních portů a konektorů I/O:

- Dva porty PS/2 pro myš a klávesnici
- Jeden sériový port
- Jeden paralelní port
- Čtyři USB porty
- Jeden port 1394a (volitelně)
- Jeden port LAN (volitelně)
- Zvukové konektory pro mikrofon, zvukový vstup a 8kanálový zvukový výstup

Firmware BIOS

Základní deska využívá BIOS formy AWARD, který uživateli umožňuje nakonfigurovat mnoho systémových parametrů, včetně následujících:

- Řízení spotřeby
- Alarmy při spouštění systému
- Parametry CPU
- Časování CPU a paměti

Firmware může být rovněž použit k nastavení parametrů pro různé taktovací frekvence procesoru.

Některé technické parametry hardware a software se mohou měnit bez předchozího upozornění.

Multi-Language Translation

Caracteristici

Procesorul

RX480-A utilizează un soclu de 939 de ace care are următoarele caracteristici:

- Funcționează cu procesoare AMD Sempron/Athlon64/Athlon 64 FX
- Suportă interfețe HyperTransport™ (HT) cu viteze de până la 2000 MT/s

Tehnologia HyperTransport™ este o legătură punct-la-punct între două aparate, care permite viteze mult mai mari de schimb al informațiilor între circuitele integrate, decât cel asigurat de tehnologiile de interconectare actuale.

Setul de chipuri

Seturile de chipuri RX480 Northbridge (NB) şi SB400 Southbridge (SB) se bazează pe o arhitectură inovatoare şi scalabilă, care s-a impus deja prin fiabilitate şi performanță.

RX480 (NB)

- O interfață x2 (extensibil la x4) A-Link Express (compatibilă cu PCI Express 1.0a) pentru conectare la ATI IXP
- Suportă o interfață grafică PCI Express x16, pe deplin compatibil cu specificația de bază PCI Express, versiunea 1.0a.
- Suportă complet stările ACPI S1, S3, S4 şi S5.
- Suportă soluția cu un singur cip pentru tehnologia CMOS pe 0,13 microni, la 1,0–1,2 V

SB400 (SB)

- Interfață A-Link Express cu 2/4 magistrale (compatibilă cu PCI Express 1.0a) pentru IGP-uri RADEON
- Compatibilă cu specificația PCI 2.3, suportând până la 7 unități bus master
- Suportă patru unități Serial ATA, compatibilă cu specificația Serial ATA 1.0, RAID 0 şi RAID 1 incorporat
- Controler gazdă USB 2.0, suportând până la opt porturi USB 2.0
- Controler IDE integrat care suportă modurile Ultra DMA 133/100/66/33

Memoria

- Suport DDR 400/333/266 DDR SDRAM cu canal dual
- Funcționează cu patru module fără zonă tampon DIMM, cu capacitate maximă de 4 GB

Audio(opţional)

Audio are următoarele caracteristici:

• Compatibil cu specificația AC'97 2.3 • CODEC de 16 biți stereo cu duplex complet şi viteză de eşantionare de 48 MHz • Suport pentru viteză dublă de eşantionare (96 kHz) pentru redare audio de pe DVD • Compatibil cu Direct Sound 3D™
• Compatibilitate cu AC'97 specificația 2.3, suportând DAC-uri cu 8 canale • Corespunde cerințelor de performanță audio pentru sisteme PC99/2001 • Corespunde cerințelor audio Microsoft WHQL/WLP 2.0

Multi-Language Translation

Onboard LAN (opţional)

Onboard LAN are următoarele caracteristici:

• Suportă operații de autonegociere N-way de 10/100 Mbps • Suportă funcția Wake-On-LAN şi trezirea de la distanță • Suportă ace LED pentru a indica diversele activități din rețea • Suportă controlul proceselor de duplex total (IEEE 802.3x)
• Unitate de emisie/recepție 10/100/1000 integrat • Suportă PCI, versiunea 2.3, de 32 biți, la 33/66 MHz • Detectare tranziție şi corectare automată • Suport pentru funcțiile Wake-on-LAN şi trezire la distanță

1394a Fire Wire (opţional)

- Compatibil deplin cu prevederile standardului IEEE 1394-1995, oferind un bus serial de înaltă performanță şi compatibilitate cu standardul IEEE 1394a-2000
- Două porturi de cablu compatibile deplin cu standardul IEEE 1394a-2000 , la viteza de 400 Mb/s

Opţiuni de extindere

Placa de bază este dotată următoarele posibilități de extindere:

- Un PCI Express de 16x pentru interfața grafică
- Două sloturi PCI Express x1
- Trei sloturi de 32 biți compatibile PCI, versiunea 2.3
- Două conectoare IDE 40 cu care suport cel mult 4 instrumente IDE
- O interfață pentru unitate floppy
- Patru conectoare SATA 7

Placa de bază suportă bus mastering UltraDMA cu viteze de transfer de 133/100/66/33 MB/s

I/O integrată

Placa de bază este dotată cu un set complet de porturi şi conectoare I/O:

- Două porturi PS/2, pentru mouse şi tastatură
- Un port serial
- Un port paralel
- Patru porturi USB
- Un port 1394a (opțional)
- Un port LAN (opțional)
- Mufe audio pentru microfon, intrare audio şi ieşire audio cu 8 canale

Firmware BIOS

Placa de bază utilizează AWARD BIOS, care permite utilizatorului să configureze mai mulți parametri ai sistemului, cum ar fi:

- Gestionarea energiei
- Alarme de trezire
- Parametri CPU
- Temporizare CPU şi memorie

Acest firmware poate fi utilizat şi pentru a seta parametrii diferitelor frecvențe de comandă ale procesorului.

Anumite specificații hardware şi elemente de software pot fi modificate fără înştiințare prealabilă.

Multi-Language Translation

Спецификация

Процесор

RX480-A използва сокет 939-pin със следните спецификации:

- Поддръжка на процесори AMD Sempron/Athlon64/Athlon 64 FX
- Поддръжка на технологията HyperTransport™ (HT) със скорост до 2000MT/s

Технологията HyperTransport™ е връзка точка-до-точка (point-to-point) между две устройства, която предоставя възможност интегрираните вериги да обменят информация на много по-висока скорост от досегашно съществуващите технологии.

Чипсет

Чипсетът със северен мост RX480 (NB) и южен мост SB400 (SB) е изграден на базата на оригинална архитектура с възможност за надстройка с доказана надеждност и производителност.

RX480 (NB)

- Интерфейс A-Link Express x2 с възможност за разширение до x4 (съвместим с PCI Express 1.0a) за връзка към ATI IXP
- Графичен интерфейс PCI Express x16 напълно съвместим със спецификацията PCI Express Base 1.0a.
- Пълна поддръжка на ACPI (Advanced Configuration and Power Interface), режими S1, S3, S4 и S5.
- Поддръжка на CMOS технология на един чип 0.13 микрона, 1.0-1.2v

S400 (SB)

- 2/4-канален интерфейс A-Link Express (съвместим с PCI Express 1.0a) за връзка към RADEON IGP
- Съвместимост със спецификацията PCI 2.3 с поддръжка на до 7 bus master устройства
- Поддръжка на четири устройства Serial ATA, съвместимо със спецификацията Serial ATA 1.0, поддръжка на RAID 0 и RAID 1
- Интегриран контролер USB 2.0 с поддръжка до осем порта USB 2.0
- Интегриран IDE контролер Ultra DMA 133/100/66/33

Памет

- Поддръжка на двуканална памет DDR 400/333/266 DDR SDRAM
- Поддръжка на четири небуферирани слота DIMM с общ максимален капацитет 4 GB

Аудио (опция)

Тази дънна платка може да поддържа един от следните видове аудио чипсети

• Съвместимост със спецификацията AC'97 2.3 • 16-bit Stereo full-duplex CODEC с честота 48MHz • Поддръжка на двойна честота (96KHz) при възпроизвеждане на DVD audio • съвместимост с Direct Sound 3D™
• Съвместимост със спецификацията AC'97 2.3, с поддръжка на 8-канални цифрово-аналогови преобразователи • Съответствие с изискванията за аудио производителност на системи PC99/2001 • Съответствие с изискванията на Microsoft WHQL/WLP 2.0

Multi-Language Translation

Интегриран мрежов контролер (опция)

Спецификация на интегрирания мрежов контролер:

• поддръжка на 10/100Mbps, N-Way Auto-negotiation operation • поддръжка на функция за “събуждане” Wake-On-LAN и дистанционен wake-up • LED-индикатори за мрежова активност • поддръжка на Full Duplex Flow Control (IEEE 802.3x)
• Интегриран 10/100/1000 контролер • поддръжка на PCI v2.3, 32-bit, 33/66-MHz • Автоматично разпознаване и конфигурация • Поддръжка на функции Wake-on-LAN и remote wake-up

1394a FireWire контролер (опция)

- Пълна съвместимост със стандартите IEEE 1394 -1995 за висикоскоростна серийна шина и IEEE 1394a -2000
- Два кабелни порта (400M bits/s) напълно съвместими със стандарта IEEE 1394a-2000

Възможности за разширяване

Дънната платка има следните разширителни възможности:

- един слот PCI Express x16 за графичен интерфейс
- Два слота PCI Express x1
- три слота 32-bit PCI v2.3
- Два колектора 40-pin IDE с поддръжка на четири IDE устройства
- един конектор за флопидисково устройство
- четири 7-щифтови SATA конекторas

Дънната платка поддържа шина UltraDMA 133/100/66/33 MB/s

Интегриран Вход/Изход контролер

Дънната платка има пълен набор от I/O портове и конектори:

- два PS/2 порта за мишка и клавиатура
- един сериен порт
- един паралелен порт
- четири USB порта
- един 1394a порт (опция)
- един LAN порт (опция)
- Аудио гнезда за микрофон, линеен вход и 8-канален аудио изход

BIOS Firmware

Дънната платка използва AWARD BIOS с възможност за различни системни настройки, включително

- управление на захранването
- Wake-up аларми
- параметри на процесора
- синхронизиране на процесора и паметта

настройка на скоростта на часовника на процесора

Хардуерните и софтуерни спецификации и параметри могат да бъдат изменени без предупреждение.

Multi-Language Translation

Jellemző

Processzor

Az RX480-A 939 tűs foglalattal rendelkezik, ennek jellemzői pedig a következők:

- AMD Sempron/Athlon64/Athlon 64 FX processzorokkal működik
- Maximum 2000 MT/s HyperTransport™ (HT) sebességű interfészt támogat

A HyperTransport™ technológia egy ponttól pontig való kapcsolat két készülék között, és segítségével az integrált áramkörök közötti információcsere sebessége sokkal nagyobb, mint a jelenleg rendelkezésre álló összekapcsolási technológiák esetében.

Lapkakészlet

A RX480 Northbridge (NB) és SB400 Southbridge (SB) lapkakészletek egy új és méretezhető, nagy megbízhatóságú és teljesítőképességű architektúrára épülnek.

RX480 (NB)

- Egy 2-szeres (4-szeresre bővíthető) A-Link Express interfész (PCI Express 1.0a kompatibilis) az ATI IXP kapcsolására
- Egy 16-szoros PCI Express a grafikus interfész számára, amely teljesen kompatibilis a PCI Express alapspecifikáció 1.0a változatával.
- Teljesen mértékben támogatja az S1, S3, S4 és S5 ACPI állapotokat.
- Egylapkás megoldást is támogat 0,13 mikronos, 1,0-1,2 V-os CMOS technológiával

SB400 (SB)

- 2/4 sávos A-Link Express (PCI Express 1.0a kompatibilitású) interfész a RADEON IGP-khez
- A PCI 2.3-as specifikációjával kompatibilis, akár 7 bus master eszközt támogat
- Négy soros ATA eszközt támogat, kompatibilis a soros ATA 1.0 specifikációjával, RAID 0 és RAID 1 beépítve
- Beépített USB 2.0 gazda vezérlő, legtöbb nyolc USB 2.0 portot támogat
- Beépített IDE vezérlő, amely az Ultra DMA 133/100/66/33 módokat támogatja

Memória

- DDR 400/333/266 DDR SDRAM, duál csatorna támogatásával
- Négy puffer nélküli DIMM, maximum 4 GB-os memóriakapacitással

Audio (opcionális)

Az alaplapon levő Audio jellemzői:

- Megfelel az AC'97 2.3-as specifikációnak
- 16 bites sztereo teljes duplex CODEC 48 MHz-es mintavételezési sebsséggel
- Dupla mintavételezési arányú (96 kHz) DVD audio lejátszást teszt lehetővé
- Kompatibilis a Direct Sound 3D™ technológiával

- Kompatibilis az AC'97 2.3-as specifikációval, 8 csatornás DAC-t támogatva.
- Megfelel a PC99/2001 rendszerek audio-teljesítménnyel szembeni követelményeknek
- Megfelel a Microsoft WHQL/WLP 2.0 audio követelményeine

Multi-Language Translation

Alaplapon levő LAN (választható)

Az alaplapon levő LAN jellemzői:

- 10/100Mbps N-Way automatikus beállítással
- Támogatja a Wake-On-LAN funkciót és a távoli ébresztést
- LED csatlakozótűket támogat különféle hálózati tevékenység-kijelzők számára
- Támogatja a teljes duplex folyamatvezérlést (IEEE 802.3x)

- Integrált 10/100/1000 adó-vevő
- Támogatja a 32 bites, 33/66 MHz-es PCI 2.3-as változatát
- Rendszerváltás érzékelés és automatikus javítás
- A Wake-on-LAN és a távoli ébresztés funkciók támogatása

1394a FireWire (opcionális)

- Teljesen kompatibilis az IEEE 1394-1995 szabvány elõírásaival, csúcsteljesítményű soros busszal, és megfelel az IEEE 1394a-2000 szabványnak
- Két, az IEEE 1394a-2000 szabvánnyal teljesen kompatibilis kábelportok, 400 Mbit/s sebességen

Bővítési lehetőségek

Az alaplap a következő bővítési lehetőségekkel rendelkezik:

- Egy 16-szoros PCI Express a grafikus interfész számára
- Két 1-szeres PCI Express foglalat
- Három 32 bites, a PCI 2.3-as változatával kompatibilis foglalat
- Két 40 tűs IDE csatlakozó négy IDE eszköz támogatására
- Egy hajlékonylemez meghajtó interfész
- Négy 7 tűs SATA csatlakozó

Az alaplap támogatja az UltraDMA bus mastering megoldást, 133/100/66/33 MB/s sebességen

Beépített I/O

Az alaplapot az I/O portok és csatlakozók teljes készletével szerelték fel:

- Két PS/2 port az egér és a billentyűzet számára
- Egy soros port
- Egy párhuzamos port
- Négy USB port
- Egy 1394a port (választható)
- Egy LAN port (választható)
- Audio csatlakozók mikrofon bemenethez, audio bemenethez és 8 csatornás audio kimenethez

BIOS Firmware

Az alaplapon levő AWARD BIOS segítségével a felhasználó a rendszer sok paraméterét állíthatja be, például:

- Energiagazdálkodás
- Ébresztési riasztások
- CPU paraméterek
- CPU és memória időzítés

A firmware segítségével a processzor órajel-frekvenciáinak paramétereit is beállíthatják.

Bizonyos hardverjellemzők és szoftverelemek előzetes bejelentés nélkül módosulhatnak.

Multi-Language Translation