

KX18DS PRO/ KX18DS PRO II

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits of 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation.

CE Mark

The device is in accordance with 89/336 ECC-ENC Directive.

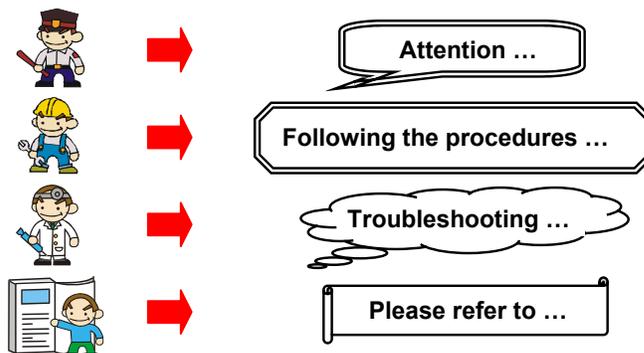
You have to know !!!

- The images and pictures in this manual are for reference only and may vary slightly from actual product installation depending on specific hardware models, third party components and software versions.
- Unplug your computer when installing components and configuring switches and pins.
- This mainboard contains very delicate IC chips. Use a grounded wrist strap when working with the system.
- Do not touch the IC chips, leads, connectors or other components.
- Unplug the AC power when you install or remove any device on the mainboard.

Package Contents

- ◆ KX18DS Series mainboard * 1
- ◆ IDE ATA100 Cable & FDC Cable
- ◆ COM Port & Game Port Bracket (optional)
- ◆ USB Bracket (optional)
- ◆ 1394 Bracket (optional)
- ◆ SPDIF & Front Audio Dual-Function Bracket (optional)
- ◆ SATA Power cord (optional)
- ◆ SATA Cable (optional)
- ◆ Installation and Setup Driver CD
- ◆ KX18DS Series User Manual

Symbols



KX18DS PRO/ K18DS PRO II

NVIDIA® nForce™2 SPP & MCP RAID

**Supports Socket 462 AMD® Athlon™XP/ Athlon™/ Duron™/ Barton™
Processors**

User Manual

Dimensions (ATX form-factor):

- 230 mm x 305 mm (WxL)

Operating System:

- Supports Windows® 98/ 2000/ ME/ XP

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Chapter 1. Getting Started

Introduction

Congratulations on choosing the KX18DS series mainboard! The KX18DS series includes KX18DS PRO and KX18DS PRO II. These are based on the nForce™2 SPP Northbridge chipset and the MCP RAID Southbridge chipset. It supports AMD® Athlon™XP/ Athlon™/ Duron™/ Barton™ Processors with a FSB (Front Side Bus) frequency of 200/ 266/ 333 and 400 MHz.

The KX18DS series provides 3 DIMM sockets using 184 pin DDR SDRAM with a total capacity of up to 3 GB. You can install unbuffered & non-ECC DDR400/ 333/ 266/ 200 (PC3200/ 2700/ 2100/ 1600) SDRAM. It supports 128 bit dual channel memory bus with a total capacity of up to 2 GB.

The KX18DS series provides one 8X/4X AGP Slot that use 0.8V or 1.5V AGP cards only.

The KX18DS series include built in IDE facilities that support Ultra ATA 33/ 66/ 100/ 133 Ultra 6-0/ DMA 2-0 and PIO 4-0 modes. It also includes built in Serial ATA facility that support SATA 150.

The KX18DS series also comes with an AC'97 Sound Codec (ALC650) which supports high quality 6 channel audio (super 5.1 Channel Audio Effect). It also supports Sony/ Philips Digital Interface (S/PDIF).

The KX18DS series also comes with eight USB 2.0 ports and the KX18DS PRO II comes with two IEEE 1394 ports. The KX18DS series also includes an infrared header.

The KX18DS series also include CPU Over Temperature Protection (OTP). When CPU temperature rises above normal values, the system will automatically shut down to protect your system from overheating. But the OTP is only functional when using an Athlon XP™ or Barton™ CPU.

The KX18DS PRO II comes preinstalled with **Voice Genie and BIOS Mirror functions**. Voice Genie allows you to select between four languages for audio diagnostics. BIOS Mirror allows you to have a backup (mirror) BIOS when the primary BIOS is damaged by virus or flash update.

The KX18DS series provides a back panel LAN port that the south bridge chipset supports and capable of 10/ 100 Mb/s transmission speeds. And the KX18DS PRO II also provides another back panel LAN port that the LAN controller supports and provides up to 1 Gb/s network connectivity.

The company's 3 Year Limited Warranty for this product covers both labor costs and replacement parts during the 1st year. Only labor costs are covered during the 2nd and 3rd years (replacement parts will be charged during the 2nd and 3rd years).

All of the information in this manual only for reference. This specification is subject to change without notice.

Specification

CPU:

- Supports Socket 462 AMD® Athlon™XP/ Athlon™/ Duron™/ Barton™ processors

Speed:

- 200/ 266/ 333/ 400 MHz Front Side Bus frequency
- 33MHz, 32 bit PCI interface (PCI 2.3 compliant)
- 66MHz AGP 3.0/ 2.0 compliant interface that supports 8X/ 4X data transfer modes (0.8V or 1.5V)

Chipset:

- Northbridge Chip – NVIDIA nForce™2 SPP
- Southbridge Chip– NVIDIA nForce™2 MCP RAID
- I/O Controller – Winbond W83627HF
- AC'97 Codec – ALC650
- LAN PHY Chip – Realtek RTL8201CL
- GB LAN Controller – Marvell MV8001 (only for KX18DS PRO II)
- 1394 Controller – VIA VT6307 (only for KX18DS PRO II)

DRAM Memory:

- Supports DDR400 (PC3200)/ DDR333 (PC2700)/ DDR266 (PC2100)/ DDR200 (PC1600) SDRAM
- Supports 64 MB/128 MB/256 MB/512 MB/1 GB unbuffered & non-ECC DIMM modules
- Supports memory modules with a total capacity of 3 GB
- Supports 128 bit DualDDR Memory Architecture that with a total capacity of 2 GB
- Supports x8, x16 DRAMs DDR DIMMs (see memory installation section for more details)

Green Functionality:

- Supports Phoenix-Award BIOS™ power management functionality
- Wakes from power saving sleep mode with any keyboard or mouse activity

KX18DS PRO/ KX18DS PRO II

Shadow RAM:

- This mainboard is equipped with a memory controller providing shadow RAM and support for ROM BIOS

BUS Slots:

- Provides one AGP slot (AGP3.0/ 2.0, 0.8V or 1.5V)
- Provides five 32-bit PCI bus slots

Flash Memory:

- Supports flash memory functionality
- Supports ESCD functionality

Hardware Monitor Function:

- Monitors CPU fan and chassis fan Speeds
- Monitors System Voltage

Infrared:

- Supports IrDA Version 1.0 SIR Protocol with a maximum baud rate of up to 115.2 Kbps
- Supports SHARP ASK-IR Protocol with maximum baud rate of up to 57600 bps

Universal Serial Bus:

- Supports USB 2.0 Enhanced Host Controller Interface (EHCI) and dual USB 1.1 Open Host Controller Interface (OHCI)
- Supports up to eight USB ports for USB interface devices

IEEE 1394 Serial Bus (for KX18DS PRO II only):

- Supports two IEEE 1394 ports for 1394 interface devices
- Supports 400/ 200/ 100 Mbps serial data rates

BIOS:

- Phoenix-Award™ BIOS
- Supports APM1.2
- Supports ACPI power management
- Supports BIOS Mirror (only for KX18DS PRO II)

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Hyper Transport Interface:

- Supports up to 800 MBps transfer rates
- Supports operates at 200 MHz dual edge clock mode

I/O facilities:

- One multi-mode Parallel Port capable of supporting the following specifications:
 1. Standard & Bi-direction Parallel Port
 2. Enhanced Parallel Port (EPP)
 3. Extended Capabilities Port (ECP)
- Supports two serial ports, 16550 UART (one on back panel and one on front panel)
- Supports Infrared Data Transmission using IrDA
- Supports PS/2 mouse and PS/2 keyboard
- Supports 360 KB, 720 KB, 1.2 MB, 1.44 MB, and 2.88 MB floppy disk drives
- Game port compatible

LAN PHY Chip:

- Supports 10/ 100 Mbps Ethernet

Marvell MV8001 LAN Controller on board (for KX18DS PRO II only):

- Supports 10/ 100/ 1000 Mbps triple-speed operation

IDE Facilities:

- Supports Ultra ATA 133/ 100/ 66/ 33 Ultra 6-0/ DMA 2-0 and PIO 4-0 modes
- Supports IDE interface with CD-ROM
- Supports high capacity hard disk drives
- Supports installation of up to 4 drives, with separate IDE connections for Primary and Secondary connectors
- Supports RAID 0/ 1/ 0+1 mode

Serial ATA Facilities:

- Compatible with SATA Spec 1.0
- Supports Serial ATA 150 MB/sec transfers
- Supports RAID 0/ 1/ 0+1 mode

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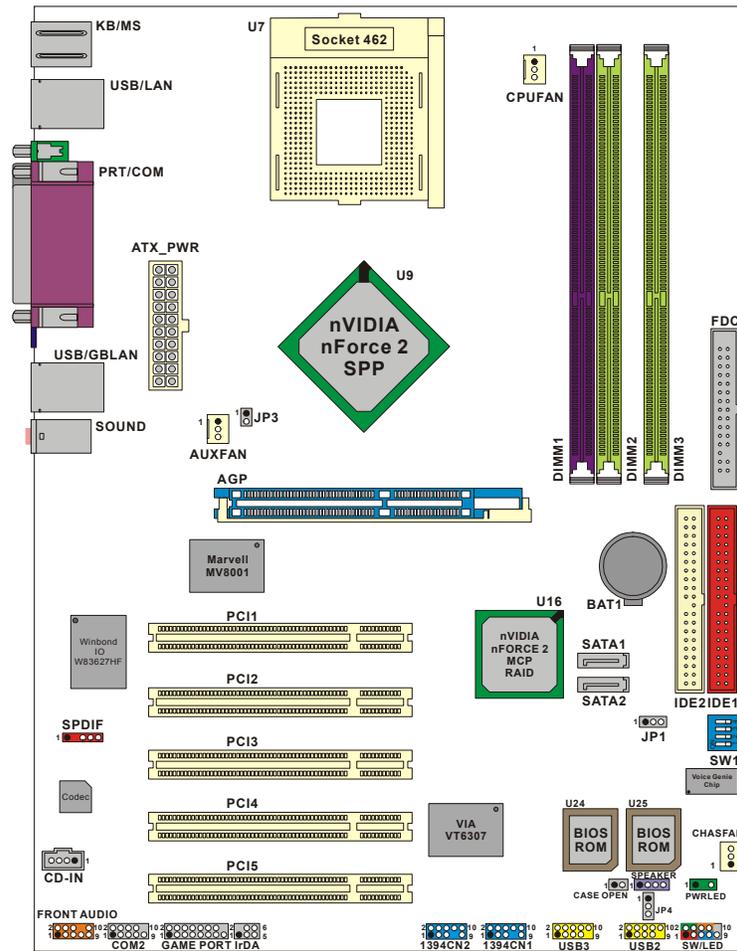
Power Management:

- Power On Suspend (POS) or ACPI S1 support
- Suspend to DRAM (STR) or ACPI S3 support
- Suspend to Disk (STD) or ACPI S4/ S5 support
- Supports C0, C1, and C2 states
- ACPI 2.0 compliant

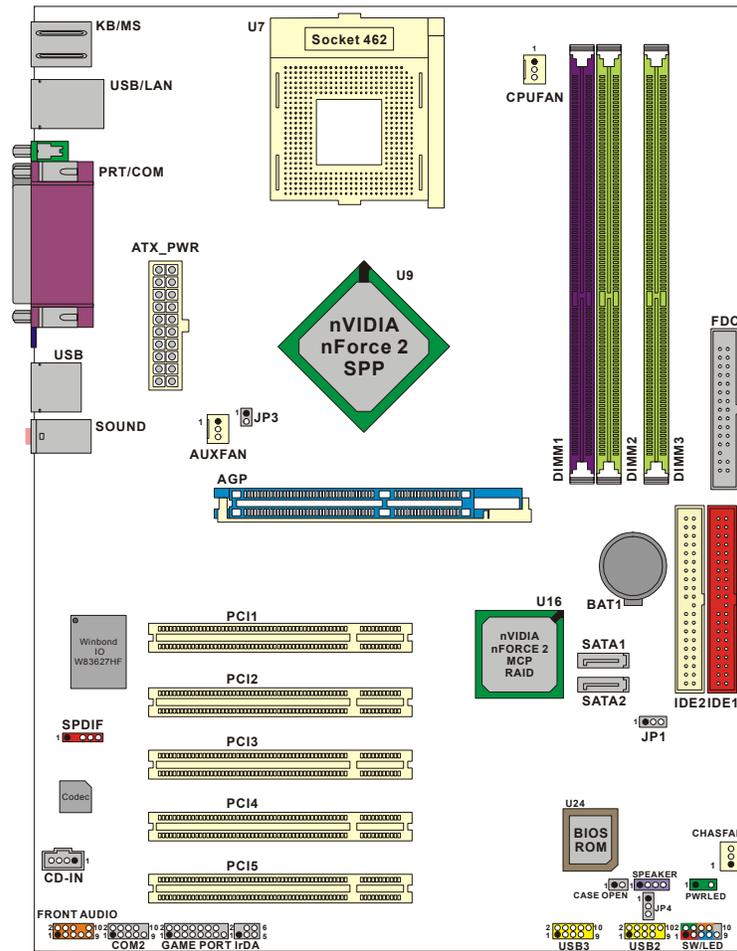
Sophisticated OTP (Over Temperature Protection):

- Special design for CPU Over Temperature Protection
- OTP is functional when using an Athlon XP™ or Barton™ CPU

Configuration Layout of KX18DS PRO II



Layout of KX18DS PRO



Hardware Installation

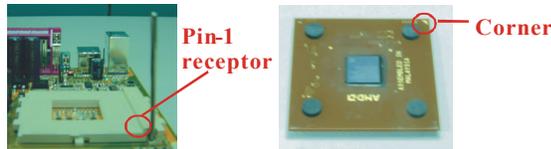
This section will assist you in quickly installing your system hardware. Wear a wrist ground strap before handling components. Electrostatic discharge may damage your system components.

CPU Processor Installation

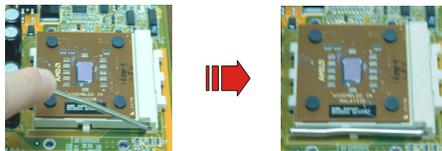
This mainboard supports AMD[®] processors using a Socket A. Before building your system, we suggest you visit the AMD[®] website and review the processor installation procedures. <http://www.amd.com>

CPU Socket A Configuration Steps:

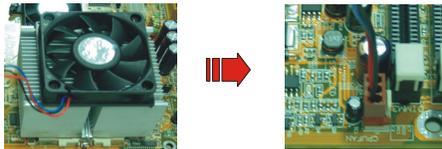
1. Locate the CPU socket on your mainboard and nudge the lever away from the socket. Then lift the lever to a 90-degree angle.
2. On the socket, locate the corner that has the pin-1 receptor. This corner will be near to the end of the lever. Match the corner on the CPU with the pin-1 receptor on the socket and lower the CPU onto the socket. The bottom of the CPU should be flush with the face of the socket.



3. Lower the lever until it snaps back into position. This will lock down the CPU.



4. Smear thermal grease on top of the CPU. Lower the CPU fan onto the CPU and use the clasps on the fan to attach it to the socket. Finally, extend the power cable from the fan and insert it onto the CPUFAN adapter.



Attention: Before starting the system

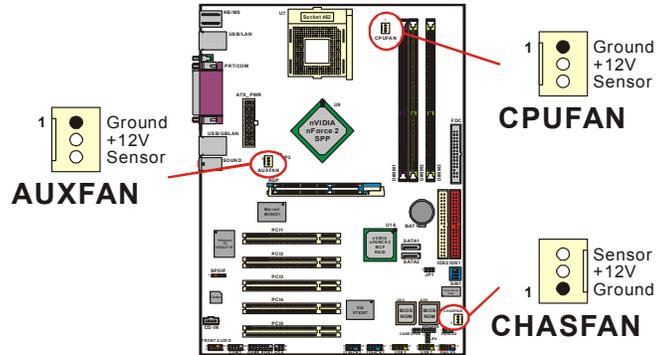
Please check the installation completely before starting the system. Verify that the heatsink is properly installed and make sure the CPU fan is working. Overheating can damage the CPU and other sensitive components.

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AN Headers

Three power headers are available for cooling fans, which play an important role in maintaining the ambient temperature in your system.



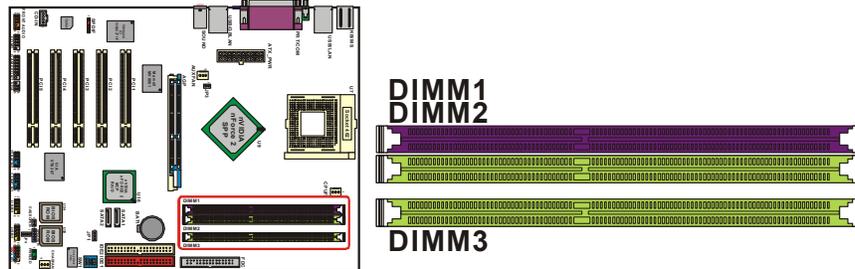
Attention

We strongly recommend you attach the CPU fan to the CPUFAN Header.

Memory Installation

The mainboard contains 3 sockets, which use 184 pin DDR SDRAM with a total memory capacity of up to 3 GB. You can install unbuffered & non-ECC DDR400/ 333/ 266/ 200 (PC3200/ 2700/ 2100/ 1600) SDRAM.

The KX18DS series supports 128 bit dual-channels memory bus with a total memory capacity of up to 2 GB. The DIMM1 and DIMM2 share one channel and the DIMM3 use the other channel. If you enable dual-channels you can increase data access rates.



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Enabling Dual-Channel DDR

To enable Dual-Channel DDR functionality, your system must meet certain configuration conditions. First, you can only use two of the three DIMM slots. You can use DIMM1 and DIMM3 together, or you can use DIMM2 and DIMM3 together. Second, the DIMM modules that you use must be identical (capacity, manufacturer and model). See the table below for clarification of DIMM module options.

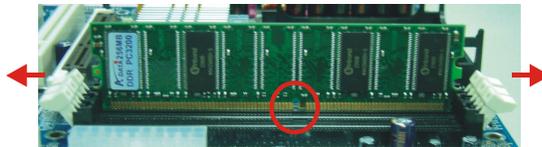
Refer to the list below to install the DDR SDRAM memory modules to enable dual-channels facility:

(the ✓ means that a DIMM module is present)

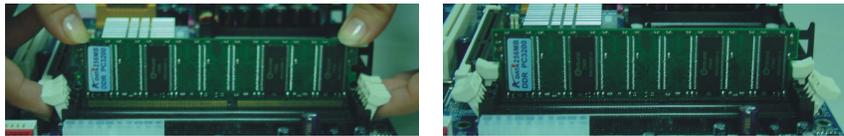
DIMM1	DIMM2	DIMM3
✓	-	✓
-	✓	✓

RAM Module Installation:

1. Pull the white plastic tabs on each side of the slot away from the slot.
2. Match the notch on the bottom of the RAM module with the corresponding pattern in the DIMM slot. This will ensure that the module will be inserted with the proper orientation.



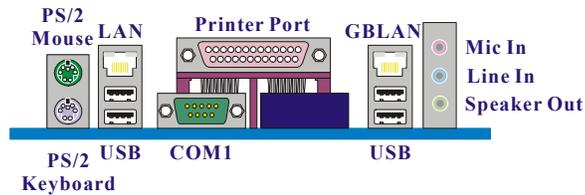
3. Lower the RAM module into the DIMM Slot and press firmly using both thumbs until the module snaps into place.



4. Repeat steps 1, 2 & 3 for the remaining RAM modules.

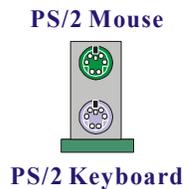
* The pictures above are for reference only. Your actual installation may vary slightly from the pictures.

Back Panel Configuration



PS/2 Mouse & PS/2 Keyboard Connectors: KB/MS

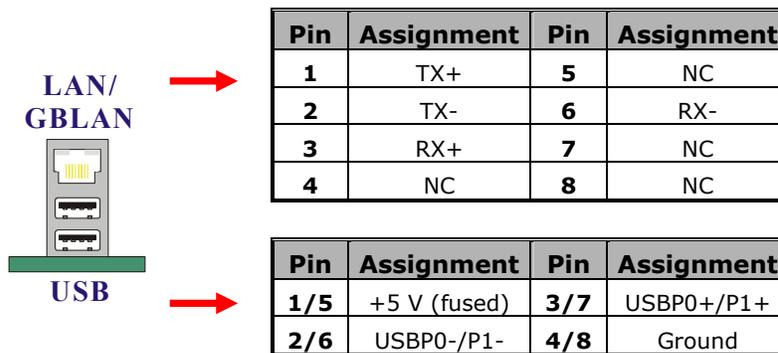
This mainboard provides a standard PS/2 mouse connector and PS/2 Keyboard connector. The pin assignments are described below:



Pin	Assignment	Pin	Assignment
1	Data	4	+5 V (fused)
2	No connect	5	Clock
3	Ground	6	No connect

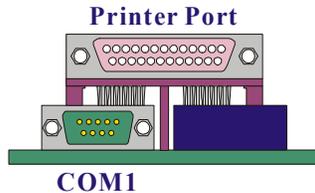
USB & LAN Connectors: USB/LAN & USB/(GBLAN => only for KX18DS PRO II)

There are four USB connectors on the back panel. These USB connectors are used to attach to USB devices such as: keyboards, mice and other USB devices. You can plug the USB devices directly into this connector. The KX18DS series provides a 10/ 100 Mb/sec LAN port and the KX18DS PRO II also provides secondary LAN port that supports 10/ 100/ 1000 Mb/sec connectivity. You can plug LAN devices directly into this connector.



Serial and Parallel Interface Ports

The mainboard comes equipped with one serial port and one parallel port on the back panel. These interface ports will be explained below.



Parallel Interface Port: PRT

The parallel port on your system has a 25-pin, DB25 connector and is used to interface with parallel printers and other devices using a parallel interface.

The Serial Interface: COM1

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, modems and other peripheral devices can be connected to a serial port.

Audio Port Connectors



Speaker Out is used to connect to speakers or headphones. If the Super 5.1 driver is enabled the Speaker Out becomes the Front Speaker.

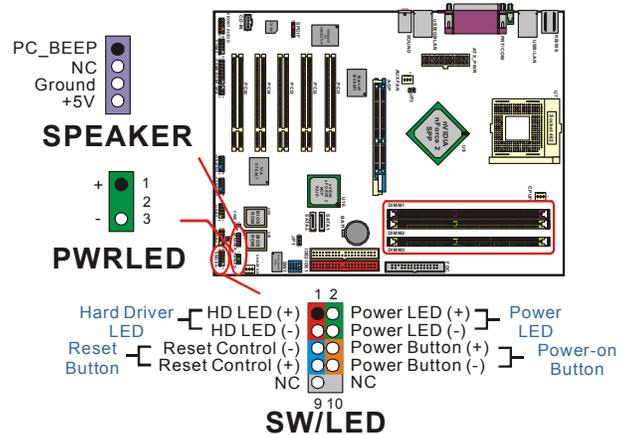
Line In can be connected to an external CD player, Tape player or other audio devices for audio input. If the Super 5.1 driver is enabled Line In becomes the Rear Speaker.

Mic In is used to connect to a microphone. If the Super 5.1 driver is enabled the Mic In becomes the Subwoofer/ Center out.



This mainboard supports Super 5.1 Channel Audio effects which turns your standard Speaker Out, Lin In, Mic In audio connectors into a 6 channel audio system. See Appendix I for more information.

Front Panel Indicator: SW/LED、PWRLED、SPEAKER



HD LED (Hard Drive LED Connector/ red)

This connector can be attached to an LED on the front panel of a computer case. The LED will flicker during disk activity. This disk activity only applies to those IDE drives directly attached to the system board.

RST (Reset Button/ blue)

This connector can be attached to a momentary SPST switch. This switch is normally left open. When closed it will cause the mainboard to reset and run the POST (Power On Self Test).

PWR-LED (2-Pin Power LED Connector/ green)

This connector can be attached to an LED on the front panel of a computer case. The LED will illuminate while the computer is powered on.

PWR ON (Power Button/ orange)

This connector can be attached to a front panel power switch. The switch must pull the Power Button pin to ground for at least 50 ms to signal the power supply to switch on or off (the time required is due to internal debounce circuitry on the system board). At least two seconds must pass before the power supply will recognize another on/off signal.

PWRLED (3-Pin Power LED/ green)

If there is a 3-pin power LED cable on the front panel of a computer case. You can attach it to the 3-pin power LED connector.

SPEAKER (Speaker Header/ violet)

A front panel speaker can be connected to this connector. When you boot your computer, the speaker sounds a short “beep”. If there is something wrong during the Power On Self-Test, the speaker sounds “irregular beep” to warning you.

Connectors

Floppy Disk Connector: FDC

This mainboard provides a standard floppy disk connector (FDC) that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy diskettes. This connector supports the floppy drive ribbon cables provided in the packaging.

Hard Disk Connectors: IDE1-2 、 SATA1-2

This mainboard has a 32-bit Enhanced PCI IDE Controller that supports Ultra 6-0/ DMA 2-0 and PIO 4-0 modes, Ultra ATA 133/ 100/ 66/ 33. It has two IDE connectors, IDE1 (primary) and IDE2 (secondary). The KX18DS series also provides two serial ATA connectors. These Hard Disk Connectors supports RAID 0/ 1/ 0+1 modes.

IDE1 (Primary IDE Connector)

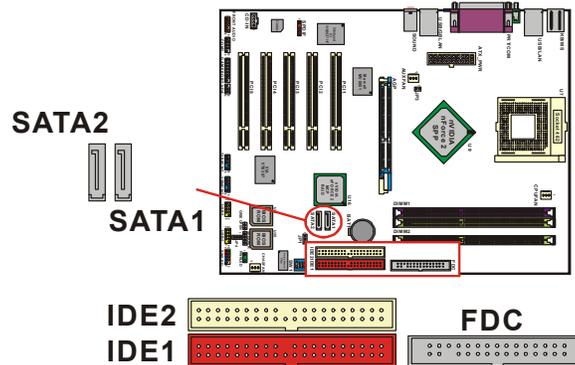
You can connect up to two hard drives to IDE1. If you attach two drives, you must use a ribbon cable with three connectors. You must also configure one drive as the master and one drive as the slave, using the jumpers located on each drive.

IDE2 (Secondary IDE Connector)

The IDE2 controller can also support a Master and a Slave drive. The configuration is similar to IDE1. The second drive on this controller must be set to slave mode.

SATA1/ SATA2

These SATA connectors support Serial ATA 150. These connectors only can connect to one serial ATA hard disk each. Note: With most storage devices, there is a power cable that you need attach to a power source (power supply).

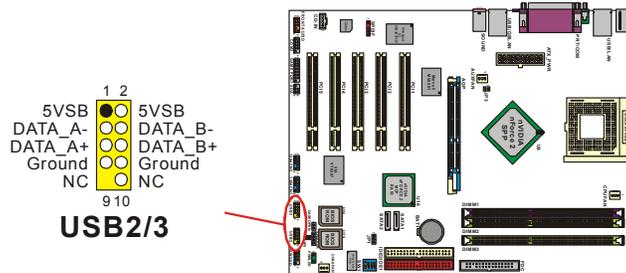


This mainboard has a southbridge chip that supports RAID 0/ 1/ 0+1 arrays for IDE & SATA Hard Drives. See Appendix II for more information.

Headers & Jumpers & Switch

Front USB Headers: USB2/ USB3

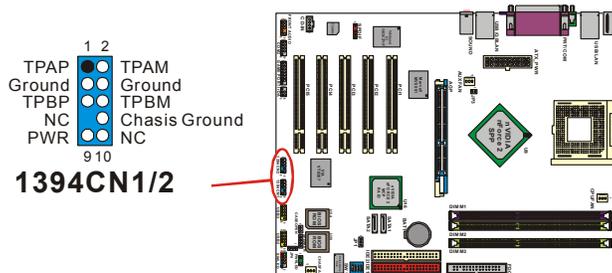
You can connect the USB Bracket (optional) to the USB2/ USB3 header. There will be USB ports on the USB Bracket which means you can connect USB device to the USB port. The mainboard supports up to 8 USB devices including 4 on the back panel.



If you are using USB 2.0 devices with Windows® 2000/ XP, you will need to install the USB 2.0 driver from the Microsoft® website. Or if you are using service pack 1 (or later) for Windows® XP, and using service pack 4 (or later) for Windows® 2000, you will not have to install the driver.

IEEE 1394 Headers: 1394 CN1/ 1394 CN2 (for KX18DS PRO II only)

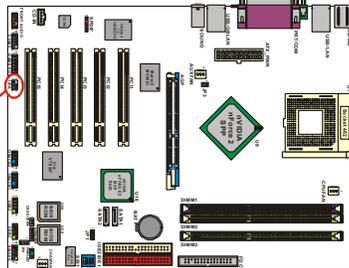
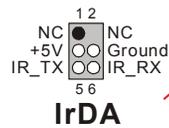
The IEEE 1394 high-speed serial bus provides enhanced PC connectivity for consumer electronics audio/video (A/V) appliances, storage peripherals, other PCs, and portable devices. The KX18DS PRO II supports up to two IEEE 1394 devices. You can connect the IEEE 1394 bracket (optional) to the 1394 CN1/ 1394 CN2 header.



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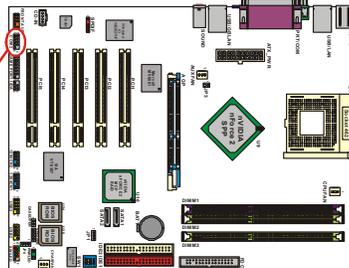
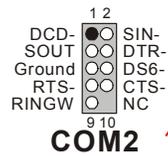
Infrared Header: IrDA

This IrDA connector can be configured to support wireless infrared and is used to attach to an infrared sensing device. After the IrDA interface is configured, you can use this connector for connectionless data transfer to and from portable devices such as laptops and PDAs.



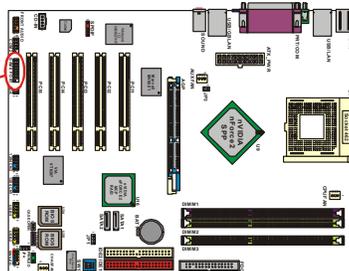
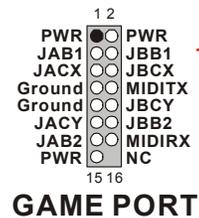
Front Serial Port Header: COM2

This mainboard supports a front serial header. To use this header, you can install a COM port & Game Port bracket (optional) with a wire extending to this header. You can then attach your serial device to the serial port on the bracket.



Game Port Header: GAME PORT

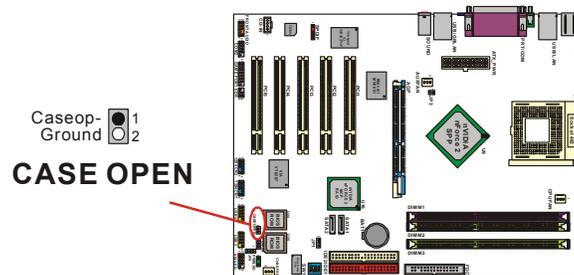
This mainboard supports a game port header. To use this header, you can install a a COM port & Game Port bracket (optional) with a wire extending to this header. You can then attach your game device to the game port on the bracket.



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Case Open Warning Jumper: CASE OPEN

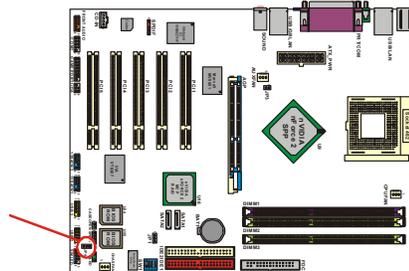
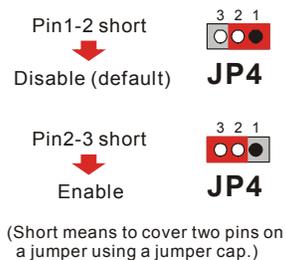
This connector is used to notify the user when the computer case has been previously opened. To configure this functionality, your computer case must be equipped with a “case open” cable which you need to attach to the CASE OPEN jumper. Also, you must enable CASE OPEN warning functionality in the BIOS setup utility. When your computer case is opened, your system will display alert messages upon boot up. Note that your computer case must be equipped with a “case open” cable.



OTP (Over Temperature Protection) Jumper: JP4

The mainboard supports a special design for CPU Over Temperature Protection. If this function is “Enabled” and the CPU temperature rises above the normal range, the system will automatically shut down and you have to unplug the ATX_PWR connector. Remove and reinstall the CPU heat sink also check to make sure the CPU fan is working properly.

*OTP is only functional when using an Athlon XP™ or Barton™ CPU.



KX18DS PRO/ KX18DS PRO II

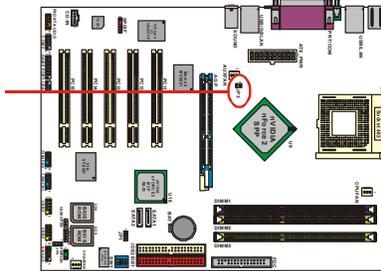
CPU Clock Select Jumper: JP3

Use the jumper “JP3” to select the CPU Clock. If you are installing a CPU that has a 133 MHz CPU clock, you also have to set the “FSB Frequency” to 133 MHz in the BIOS Setup Utility.

JP3	CPU Clock
1-2 non-short	100
1-2 short	133/ 166/ 200

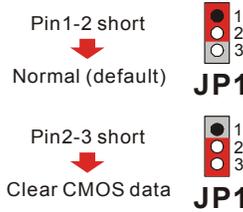


(Short means to cover two pins on a jumper using a jumper cap.)

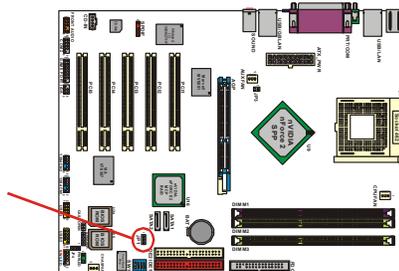


Clear CMOS Jumper: JP1

The “Clear CMOS” jumper is used when you cannot boot your system due to some CMOS configuration problem such as a forgotten password. This jumper allows you to reset the CMOS configurations, and then reconfigure.



(Short means to cover two pins on a jumper using a jumper cap.)



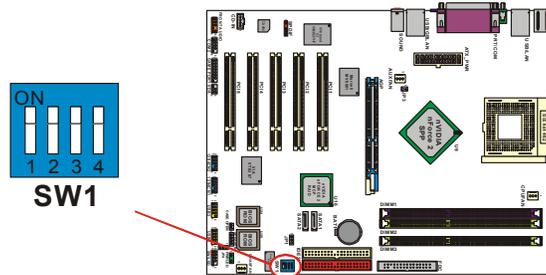
The following procedures are for resetting the BIOS password. It is important to follow these instructions closely.

1. Turn off your system and disconnect the AC power cable.
2. Set JP1 to OFF (2-3 Closed).
3. Wait several seconds.
4. Set JP1 to ON (1-2 closed).
5. Connect the AC power cable and turn on your system.
6. Reset your desired password or clear CMOS data.

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Voice Genie / BIOS Mirror Function switch: SW1 (only for KX18DS PRO II)

This switch is used to configure the Voice Genie and BIOS Mirror functions. With SW1-1 and SW1-2, you can select the appropriate language for audio diagnostics. With the SW1-3 switch, you can begin using the alternate or mirror BIOS by switching this switch to “rescue”. This is used when the primary BIOS had been infected with a virus or damaged during a flash update.



Voice Genie

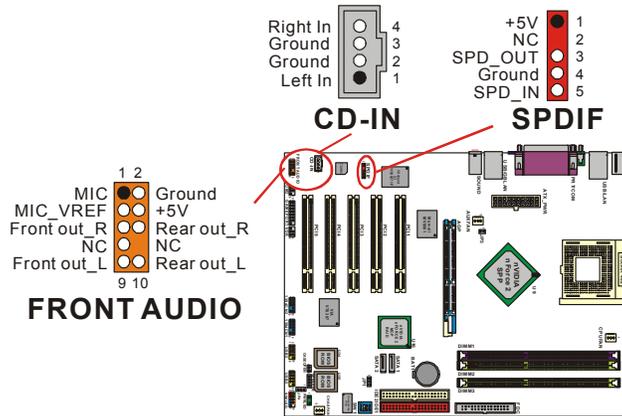
Voice Genie	SW1-1	SW1-2
English	ON	ON
Chinese	ON	OFF
Japanese	OFF	ON
German	OFF	OFF

BIOS Mirror

BIOS Mirror	SW1-3
Enable(default)	ON (Main BIOS=>U24)
Disable (rescue)	OFF (Backup BIOS=>U25)

Audio Connectors

This mainboard provides three connectors as part of its audio Subsystem.



CD-ROM Audio-In Header: CD-IN

This header is used to connect to a CD-ROM / DVD audio cable.

Front Panel Audio Header: FRONT AUDIO

If your computer case has been designed with embedded audio equipment. You can attach these components to the FRONT_AUDIO panel of the mainboard. First remove the jumper caps covering the FRONT_AUDIO pins. Use pins 1, 3 to connect to the case microphone. Use pins 9,5 to connect to the earphone. If you do not intend to use the FRONT_AUDIO panel, do not remove the jumper caps. The front panel audio effect and the back panel audio effect cannot simultaneous function.



If the jumper caps are in place, jumper cap 1 is on pin 5, pin 6 and jumper cap 2 is on pin 9, pin 10.

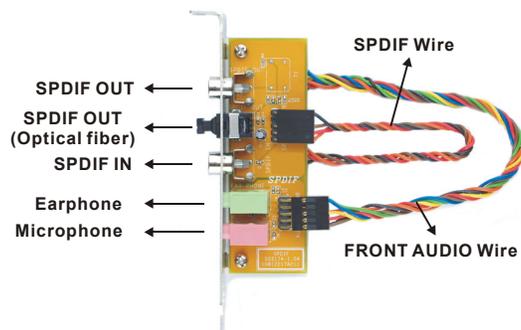
KX18DS PRO/ KX18DS PRO II

S/PDIF Header: SPDIF

S/PDIF (Sony/Philips Digital Interface) is an audio transfer file format, which provides high quality audio using optical fiber and digital signals. This mainboard is capable of delivering audio output and receiving audio input through the SPDIF header. One way you would use this header is by using an SPDIF bracket (optional) attached to your computer. This bracket will have a cable that you can attach to the SPDIF header. This bracket will also have an RCA connector, similar to that used with most consumer audio products. Using the RCA connector, the data can then be output to and input from an S/PDIF device. The devices that are receiving and sending information from this header must be S/PDIF compliant for optimal effect. Note that the SPDIF bracket is optional in the packaging that comes with this mainboard.

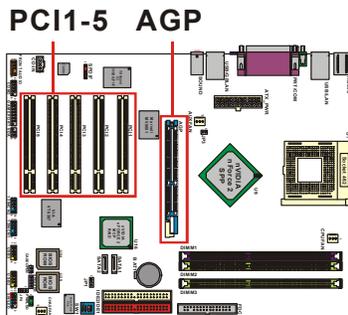
SPDIF & Front Audio Dual-Function Bracket (optional)

You can connect the bracket to the SPDIF and FRONT AUDIO Headers.



Slots

The slots in this mainboard are designed for expansion cards used to complement and enhance the functionality of the mainboard.



AGP Slot: AGP

The KX18DS series is equipped with an Accelerated Graphics Port (AGP) that supports 4X/ 8X (0.8V or 1.5V) AGP cards only.

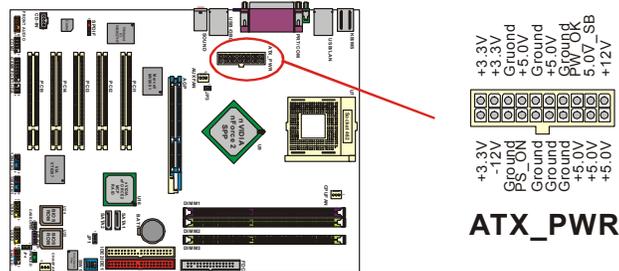
PCI Slots: PCI1-5

The KX18DS series is equipped with 5 standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards. This PCI slot is designated as 32 bit.

Power Supply Attachments

ATX Power Connector: ATX_PWR

This ATX power supply uses a 20-pin connector. Make sure the connector is properly inserted before applying power.



Chapter 2. BIOS Setup

Introduction

This section describes PHOENIX-AWARD™ BIOS Setup program which resides in the BIOS firmware. The Setup program allows users to modify the basic system configuration. The configuration information is then saved to CMOS RAM where the data is sustained by battery after power-down.

The BIOS provides critical low-level support for standard devices such as disk drives, serial ports and parallel ports. As well, the BIOS controls the first stage of the boot process, loading and executing the operating system.

The PHOENIX-AWARD™ BIOS installed in your computer system's ROM is a custom version of an industry standard BIOS. This means that it supports the BIOS of AMD® based processors.

This version of the PHOENIX-AWARD™ BIOS includes additional features such as virus and password protection as well as special configurations for fine-tuning the system chipset. The defaults for the BIOS values contained in this document may vary slightly with the version installed in your system.

Plug and Play Support

This PHOENIX-AWARD™ BIOS supports the Plug and Play Version 1.0A specification as well as ESCD (Extended System Configuration Data) write.

APM Support

This PHOENIX-AWARD™ BIOS supports Version 1.1 & 1.2 of the Advanced Power Management (APM) specification. These features include system sleep and suspend modes in addition to hard disk and monitor sleep modes. Power management features are implemented using the System Management Interrupt (SMI).

PCI Bus Support

This PHOENIX-AWARD™ BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

Supported CPUs

This PHOENIX-AWARD™ BIOS supports the AMD® Athlon™ XP/ Athlon™/ Duron™/ Barton™ CPUs.

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Key Function

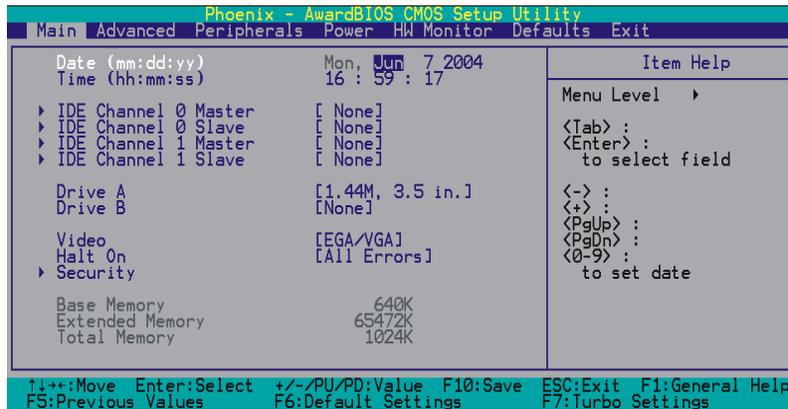
In general, you can use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate within the BIOS Setup program.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desire
PgUp key	Increase the numeric value or enter changes
PgDn key	Decrease the numeric value or enter changes
+ Key	Increase the numeric value or enter changes
- Key	Decrease the numeric value or enter changes
Esc key	Main Menu – Quit and do not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the fail-safe defaults from BIOS default table
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

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Main Menu

When you enter the PHOENIX-AWARD™ BIOS Utility, the Main Menu will appear on the screen. The Main menu allows you to select from several configuration options. Use the left/right arrow keys to select a particular configuration screen from the top menu bar or use the down arrow key to access and configure the information below.

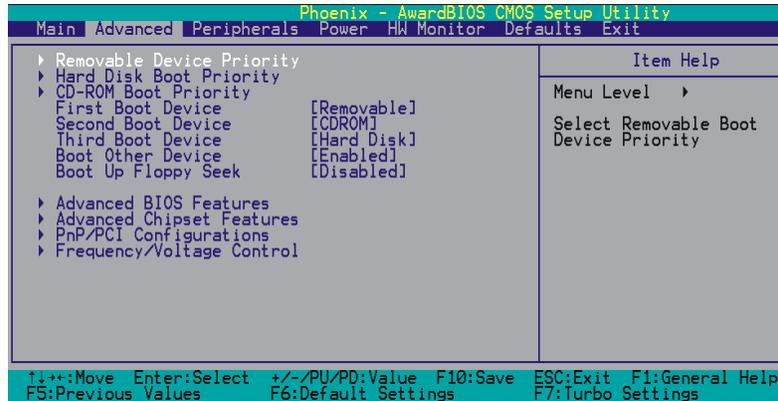


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Main Menu Setup Configuration Options

Item	Options	Description
Date	mm dd yyyy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	Hh: mm: ss	Set the current time of the system.
IDE Channel 0 Master/ Slave	Options contained in sub menu.	Press <Enter> to enter the sub menu.
IDE Channel 1 Master/ Slave	Options contained in sub menu.	Press <Enter> to enter the sub menu.
IDE Channel 2 Master	Options contained in sub menu.	Press <Enter> to enter the sub menu.
IDE Channel 3 Master	Options contained in sub menu.	Press <Enter> to enter the sub menu.
Drive A Drive B	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Security	Options contained in sub menu.	Press <Enter> to enter the sub menu.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

Advanced BIOS Features



Removable Device Priority

Select removable device priority. Just like floppy, LS120, ZIP-100, USB-FDD and USB-ZIP.

Hard Disk Boot Priority

Select hard disk boot priority.

CD-ROM Boot Priority

Select CD-ROM boot priority.

First /Second/Third Boot Device

Select the order in which devices will be searched in order to find a boot device.

Options: Floppy · LS120 · CDROM · ZIP100 · USB-FDD · USB-ZIP · USB-CDROM · USB-HDD · SCSI · LAN · Disabled (Note: You have to set to “SCSI” when you want to boot from SATA device.)

Boot Other Device

The setting allows the system to try to boot from other devices if the system fails to boot from the 1st/ 2nd/ 3rd boot devices. Options: Enabled (default) · Disabled

Boot Up Floppy Seek

When “Enabled” the BIOS tests (seeks) floppy drives to determine whether they have 40 or 80 tracks. Only 360-KB floppy drives have 40 tracks. Drives with 720 KB, 1.2 MB, and 1.44 MB capacity all have 80 tracks. Because very few modern PCs have 40-track floppy drives, we recommend that you set this field to “Disabled”. Options: Disabled (default) ∨ Enabled

Advanced BIOS Features

Virus Warning

This item allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will display a warning message on the screen and sound an audio alarm (beep).

Options: Disabled (default), Enabled

CPU Internal Cache

Make CPU internal cache active or inactive. System performance may degrade if you disable this item. Options: Enabled (default) ∨ Disable.

External Cache

This item allows you to enable or disable “Level 2” secondary cache on the CPU to enhance performance. Options: Disabled (default) ∨ Enabled

Quick Power On Self Test

Allows the system to skip certain tests while booting. This will speed up the boot process.

Options: Enabled (default) ∨ Disabled.

Swap Floppy Driver

If the system has two floppy drivers, choose “Enabled” to assign physical drive B to logical drive A and vice-versa. Options: Disabled (default) ∨ Enabled

Boot Up NumLock Status

Selects the power on state for NumLock.

Options: On (default) Numpad keys are number keys.
Off Numpad keys are arrow keys.

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Typematic Rate Setting

When “Enabled”, the “typematic rate” and “typematic delay” can be configured. Typematic Rate determines the keystroke repeat rate used by the keyboard controller..

Options: Disabled (default) · Enabled

Typematic Rate (Chars/Sec)

The rate at which a character repeats when you hold down a key.

Options: 6 (default) · 8 · 10 · 12 · 15 · 20 · 24 · 30

Typematic Delay (Msec)

The delay before keystrokes begin to repeat. Options: 250 (default) · 500 · 750 · 1000

APIC Mode

By enabling this option, “MPS version control for OS” can be configured.

Options: Disabled · Enabled (default)

MPS Version Control For OS

The 1.1 version is the older version that supports 8 more IRQs in the Windows NT environment. Choose the new 1.4 version for Windows 2000 and Windows XP.

Options: 1.4 (default) · 1.1

OS Select For DRAM > 64MB

Select “OS2” only if you are running the OS/2 operating system with greater than 64MB of RAM.

Options: Non-OS2 (default) · OS2

HDD S.M.A.R.T. Capability

Self Monitoring Analysis and Reporting Technology is a technology that enables a PC to attempt to predict the possible failure of storage drives. Options: Disabled (default) · Enabled

Small LOGO (EPA) Show

This item allows you to show or hide the small LOGO EPA.

Options: Disabled (default) · Enabled

Advanced Chipset Features

System Performance

This item allows you select the system performance which you want.

- Options: Optimal (default) Use the most stable settings
Aggressive/Turbo Use over clocked settings for higher performance but with higher risk of instability
Expert Allows full customization of performance options. Advanced user only.

FSB Frequency

This item allows you to select the CPU Frequency. The mainboard can detect the CPU Frequency as long as the BIOS can identify the ID number for the CPU you have installed. Otherwise the CPU Frequency will be set to safe values that you can manually adjust in the item. When the “System Performance” set to “Expert” the options range will be 100 ~ 300 MHz.

CPU Interface

When the “System Performance” set to “Expert”, this item allows you to set the CPU/FSB parameters.

- Options: Optimal Use most stable CPU/FSB parameters
Aggressive Use overclocked CPU/FSB parameters

DDR:CPU Ratio

When the “System Performance” set to “Expert”, this item allows you to adjust your “DDR:CPU Ratio” and overclock the DDR speeds of the system.

- Options: 1 ∙ 1.2 ∙ 1.33 ∙ 1.50 ∙ 1.60 ∙ 1.66 ∙ 2 ∙ 2.4 ∙ 2.5 ∙ 2.66 ∙ 3 ∙ 3.33 ∙ 4 ∙ Auto or AUTO, BySPD (default)

DDR Speed (Strobe/Sec)

This item shows the DDR Speed.

Memory Timings

When the “System Performance” set to “Expert”, this item allows you to select the memory timing. This item determines DRAM clock/ timing using SPD or manual configuration. Make sure your memory module has SPD (Serial Presence Data), if you want to select the “Optimal”.

- Options: Optimal (default) ∙ Aggressive ∙ Turbo ∙ Expert

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T (RAS)

When the “Memory Timings” set to “Expert” then the item allows you to select DRAM active to Precharges Delay. Row-active delay => set system performance to “Optimal” to use the delay recommend by the DIMM’s manufacturer. Options: 1~15

T (RCD)

When the “Memory Timings” set to “Expert” then the item allows you to select the DRAM delay time when begin read. RAS-to-CAS delay => set system performance to “Optimal” to use the delay recommend by the DIMM’s manufacturer. Options: 1~7

T (RP)

When the “Memory Timings” set to “Expert” then the item allows you to set the time to precharge. Row-precharge delay => set system performance to “Optimal” to use the delay recommend by the DIMM’s manufacturer. Options: 1~7

CAS Latency Time

This item determines CAS Latency. When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system engineer. This field is adjustable only when “Memory Timing” is set to “Aggressive”. Options: 2.5 ` 3 and By SPD (default)

Memory Auto Precharge

This item allows you to enable or disable the memory auto precharge.
Options: Disabled (default) ` Enabled

FSB Spread Spectrum

This item allows you to enable/ disabled the FSB spread spectrum. We recommend you to disabled this item before overclocking. Options: 0.50% (default) ` 1.00% ` Disabled

AGP Spread Spectrum

When you installed a AGP card this item will allow you to enable/ disable the AGP speed spread spectrum. We recommend you to disabled this item before overclocking.
Options: 0.50% (default) ` Disabled

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AGP Aperture Size (MB)

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

Options: 32M · 64M · 128M (default) · 256M · 512M

AGP Frequency

This item allows you to select the AGP frequency.

Options: Auto (default) · 50 MHz · 66~87 MHz · 90 MHz · 93 MHz · 95 MHz · 97 MHz · 100 MHz

AGP 8X Support

This item allows you to enable or disable the AGP 8X. Options: Enabled (default) · Disabled

AGP Fast Write Capability

The AGP Fast Write technology allows the CPU to write directly to the graphics card bypassing the system AGP 4X speed. Choose “Enabled” only when you used with AGP card support.

Options: Disabled · Enabled (default)

System BIOS Cacheable

When enabled, accesses to system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled. Options: Enabled · Disabled (default)

Video RAM Cacheable

Select “Enabled” to allow caching of the video RAM which may improve performance. If any other program writes to this memory area, a system error may result. Options: Enabled, Disabled (default)

PnP/PCI Configurations Resources Controlled By

BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you will not be able to manually assign IRQ DMA and memory base address fields, since BIOS automatically assigns them. Options: Auto (ESCD) (default) · Manual

IRQ Resources

When resources are controlled manually, you can assign each system interrupt a type, depending on the type of device using the interrupt. This is only configurable when “Resources Controlled By” is set to “Manual”.

Options: IRQ-3/ 4/ 5/ 7/ 9/ 10/ 11/ 12/ 14/ 15 assigned to PCI device

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PCI / VGA Palette Snoop

Some graphic controllers that are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

Options: Disabled (default) · Enabled

PCI Latency Timer (CLK)

This item allows you to set up the PCI Latency Time (0-255). If you select the “32” it will optimize PCI speeds. Options: 0-255 · 32 (default)

Frequency/ Voltage Control CPU Speed Detected

This item displays the CPU Speed.

CPU Clock Ratio

This field allows you to adjust the CPU clock ratio. When the CPU clock ratio is locked by the CPU manufacturer, you will not be able to adjust this field.

Options: Available options will depend on the CPU installed.

Default CPU Voltage (Volt)

This item displays the CPU default Voltage.

CPU Voltage (Volt)

This item allows you to adjust your CPU core voltage.

AGP Voltage (Volt)

This item allows you to adjust the AGP Voltage. Options: 1.5 (default) · 1.6 · 1.7 · 1.8

DDR Voltage (Volt)

This item allows you to adjust the RAM voltage.

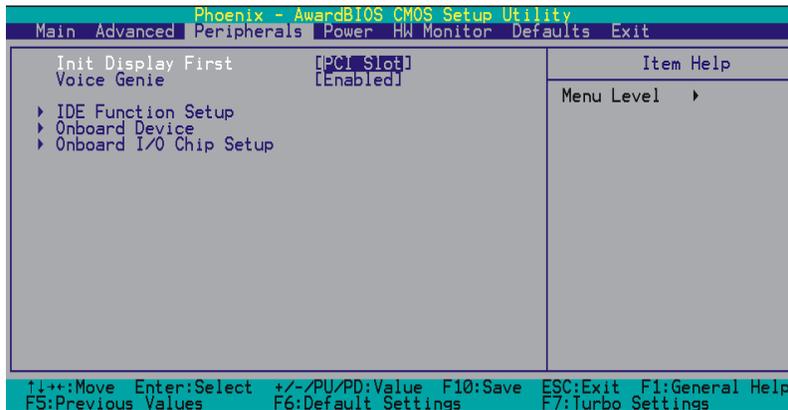
Options: 2.70 (default) · 2.80 · 2.90 · 3.00

Chipset Voltage (Volt)

This item allows you to adjust the North/ South bridge chipsets voltage.

Options: 1.6 (default) · 1.7 · 1.8 · 1.9

Integrated Peripherals



Init Display First

With systems that have multiple video cards, this option determines whether the primary display uses a PCI slot or an AGP slot. Options: AGP \ PCI Slot (default)

Voice Genie (only for KX18DS PRO II)

Voice Genie supplies verbal and diagnostics during the boot up process. This item allows you to enable or disable the Voice Genie function. Option: Enabled (default) \ Disabled

IDE Function Setup

If you highlight the "IDE Function Setup" label and then press the enter key, it will take you to a submenu with the following options:

OnChip IDE Channel 0/1

The mainboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.

Options: Enabled (default) \ Disabled

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Primary/Secondary/Master/Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance incrementally. In Auto mode, the system automatically determines the best mode for each device. Options: Auto (default) ∙ Mode0 ∙ Mode1 ∙ Mode2 ∙ Mode3 ∙ Mode4.

IDE Primary / Secondary /Master / Slave UDMA

Ultra DMA 100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA 100, select "Auto" to enable BIOS support. Options: Auto (default) ∙ Disabled

IDE Prefetch Mode

The "onboard" IDE drive interfaces supports IDE prefetching for faster drive access. If you install a primary and/or secondary add-in IDE interface, set this option to "Disabled" if the interface does not support prefetching. Options: Enabled (default) ∙ Disabled

IDE HDD Block Mode

Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do). The system will automatically determine the optimal number of blocks to read and write per sector. Options: Enabled (default) ∙ Disabled

Serial-ATA

This item allows you to enable or disable the S ATA device. Options: Enabled (default) ∙ Disabled

SATA Spread Spectrum

When you installed a SATA device this item will allow you to enable/ disable the SATA speed spread spectrum. We recommend you to enabled this item to decrease EMI noise.

Options: Enabled (default) ∙ Disabled

IDE RAID

If you highlight the "IDE RAID" label and then press the enter key, it will take you to a submenu with the following options:

IDE RAID

This item allows you to enable or disabled the following six options. Options: Enabled ∙ Disabled (default)

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IDE Channel 0 Master RAID

This allows you to enable or disable the RAID function for the IDE Channel 0 Master device.
Options: Enabled ∙ Disabled (default)

IDE Channel 0 Slave RAID

This allows you to enable or disable the RAID function for the IDE Channel 0 Slave device.
Options: Enabled ∙ Disabled (default)

IDE Channel 1 Master RAID

This allows you to enable or disable the RAID function for the IDE Channel 1 Master device.
Options: Enabled ∙ Disabled (default)

IDE Channel 1 Slave RAID

This allows you to enable or disable the RAID function for the IDE Channel 1 Slave device.
Options: Enabled ∙ Disabled (default)

SATA Primary Master RAID

This allows you to enable or disable the RAID function for the SATA Primary Master device.
Options: Enabled ∙ Disabled (default)

SATA Secondary Master RAID

This allows you to enable or disable the RAID function for the SATA Secondary Master device.
Options: Enabled ∙ Disabled (default)

Onboard Device

If you highlight the “Onboard Device” label and then press the enter key, it will take you to a submenu with the following options:

OnChip USB

This option should be enabled if your system has a USB port installed on the system board. You will need to disable this feature if you add a higher performance controller.
Options: V1.1+V2.0 (default) ∙ Disabled ∙ V1.1

USB KB/ Storage Support

This item allows you to enable the USB attached keyboards and storages.
Options: Disabled (default) ∙ Enabled

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AC97 Audio

This option allows you to control the onboard AC'97 audio.
Options: Enabled (default) ∙ Disabled

MAC Lan (nVIDIA)

This option allows you to control the onboard LAN device.
Options: Enabled (default) ∙ Disabled

OnChip 1394 (only for KX18DS PRO II)

This item allows you to enable or disabled the 1394 Device. Options: Enabled (default) ∙ Disabled

Gigabit LAN

This option allows you to enabled or disabled the Gigabit LAN device.
Options: Enabled (default) ∙ Disabled

Onboard I/O Chip Setup

If you highlight the “Onboard I/O Chip Setup” label and then press the enter key, it will take you to a submenu with the following options:

Power On Function

This field allows you to select a way to power on your computer. Options: Password ∙ Hot KEY ∙ Mouse Left ∙ Mouse Right ∙ Any KEY ∙ BUTTON ONLY (default), and Keyboard 98

KB Power ON Password

This field allows you to set the password to power on your system. This field is only configurable when “Power On Function” is set to “Password”.

Hot Key Power ON

This field allows you to use the Ctrl key along with a hot key (function key) to power on your system. This field is only configurable when “Power On Function” is set to “Hot Key”.
Options: Ctrl-F1 ∙ Ctrl-F2..... Ctrl-F12

Onboard FDC Controller

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

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Onboard Serial Port 1/ Port 2

Select an address and corresponding interrupt for the first/ second serial port.

Options: Disabled 、 3F8/IRQ4 (default for port1) 、 2F8/IRQ3(default for port2) 、 3E8/IRQ4 、 2E8/IRQ3 、 Auto

UART Mode Select

This item allows you to select the Infra Red (IR) standard to be used.

Options: Normal (default) 、 ASKIR 、 IrDA

RxD, TxD Active

This item determines the RxD and TxD frequencies. This field only configurable if “UART Mode Select” is set to “ASKIR” or “IrDA”.

Options: Hi / Lo (default) 、 Hi / Hi 、 Lo / Hi 、 Lo / Lo

IR Transmission Delay

This item allows you to enable/disable IR transmission delay. This field only configurable if “UART Mode Select” is set to “ASKIR” or “IrDA”. Options: Enabled (default) 、 Disabled

UR2 Duplex Mode

Select the transmission mode used by the IR interface. Full-duplex mode permits simultaneous bi-directional transmission. Half-duplex mode permits transmission in only one direction at a time. This field only configurable if “UART Mode Select” is set to “ASKIR” or “IrDA”.

Options: Half (default) 、 Full

Use IR Pins

Consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals. This field is only configurable if “UART Mode Select” is set to “ASKIR” or “IrDA”.

Options: Full 、 Half (default)

Onboard Parallel Port

Select an address and corresponding interrupt for the onboard parallel port.

Options: 378/IRQ7 (default) 、 278/IRQ5 、 3BC/IRQ7 、 Disabled

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Parallel Port Mode

This option allows you to select a parallel port mode for the onboard parallel port.

Options: ECP(default) Extended Capabilities Port.
 EPP Enhanced Parallel Port.
 SPP Standard Printer Port.
 ECP+EPP ECP & EPP mode.
 Normal

EPP Mode Select

Select EPP port type 1.7 or 1.9. This field is only configurable if “Parallel Port Mode” is set to “EPP” or “ECP+EPP”. Options: EPP 1.9(default) ∙ EPP 1.7

ECP Mode Use DMA

Select a DMA Channel for the parallel port when using the ECP mode. This field is only configurable if “Parallel Port Mode” is set to “ECP”. Options: 3 (default) ∙ 1

PWRON After PWR-Fail

This field will determine whether your system will boot after restoring power after a power failure. If you select “On”, the system will boot whether or not the system was on before power failure. If you select “Former-Sts”, the system will be restored to the status before the power failure.

Options: Off (default) ∙ On ∙ Former-Sts

Game Port Address

Game Port I/O Address. Options: 201 (default) ∙ 209 ∙ Disabled

Midi Port Address

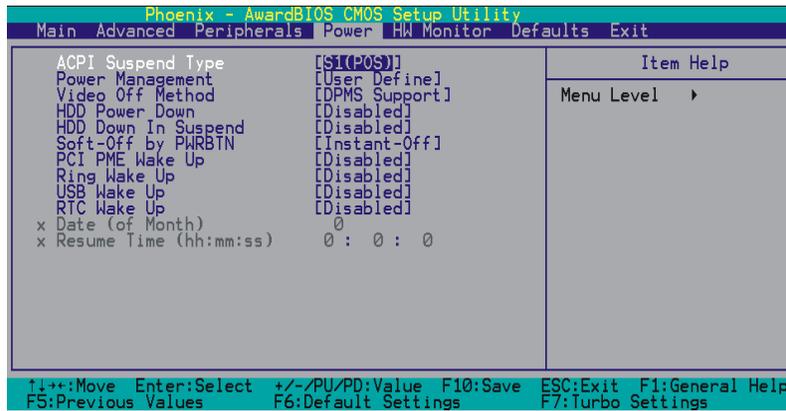
Midi Port Base I/O Address. Options: 330 ∙ 300 (default) ∙ 290 ∙ Disabled

Midi Port IRQ

This determines the IRQ that the Midi Port will use. Options: 5 ∙ 10 (default)

Power Management

The Power Management Setup Menu allows you to configure your system to utilize energy conservation features as well as power-up/ power-down options.



ACPI Suspend Type

The item allows you to select the suspend type using the ACPI operating system.

Options: S1 (POS) (default)	Power on Suspend
S3 (STR)	Suspend to RAM
S1 & S3	POS and STR

Power Management

There are three options of Power Management:

1. Min. Power Saving

Minimum power management

HDD Power Down = 15 minutes

2. Max. Power Saving

Maximum power management (only available for sl CPUs).

HDD Power Down = 1 minute

3. User Defined (default)

Allows you to set each mode individually.

When this option is enabled, each of the ranges are from 1 minute to 1 hour except for HDD Power Down, which ranges from 1 minute to 15 minute and includes a “disable” option.

Note: If you select Min. or Max. Power Saving modes, the “HDD Power Down” value will fixed.

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Video Off Method

This option determines the manner in which the monitor goes blank.

Options:

- | | |
|-----------------------|--|
| V/H SYNC+Blank | This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. |
| Blank Screen(default) | This option only writes blanks to the video buffer. |
| DPMS Support | Initial display power management signaling. |

HDD Power Down

When enabled, the hard disk drive will power down after a certain configurable period of system inactivity. All other devices remain active.

Options: Disabled (default) · 1 Min · 2 Min · 3 Min · 4 Min · 5 Min · 6 Min · 7 Min · 8 Min · 9 Min · 10 Min · 11 Min · 12 Min · 13 Min · 14 Min · 15Min

HDD Down In Suspend

This allows you to enable/ disable the hard driver power down in the suspend state.

Options: Disabled (default) · Enabled

Soft-Off by PWRBTN

In situations where the system enters a “hung” state, you can configure the BIOS so that you are required to pre the power button for more than 4 seconds before the system enters the Soft-Off state.

Options: Delay 4 Sec, Instant-Off (default).

PCI PME Wake Up

This option will also cause the system to wake up with any onboard LAN activity.

Options: Disabled (default) · Enabled

Ring Wake Up

This option allows you to awaken the system upon receiving an incoming call to modem device.

Options: Disabled (default) · Enabled.

USB Wake up

This item allows you to awaken the system from suspend mode using a USB devices.

Options: Enabled · Disabled (default)

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RTC Wake Up

When “Enabled”, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode. Options: Enabled \ Disabled (default).

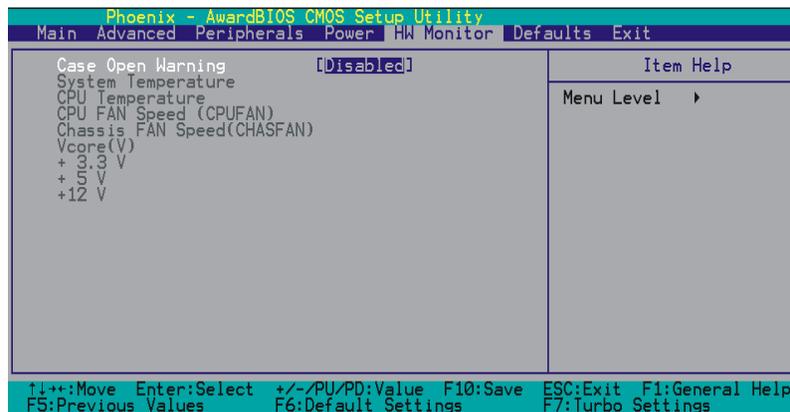
Date (of Month)

You can choose which date of the month the system will boot up. This field is only configurable when “RTC Wake Up” is set to “Enabled”.

Resume Time (hh:mm:ss)

This item select the alarm time.

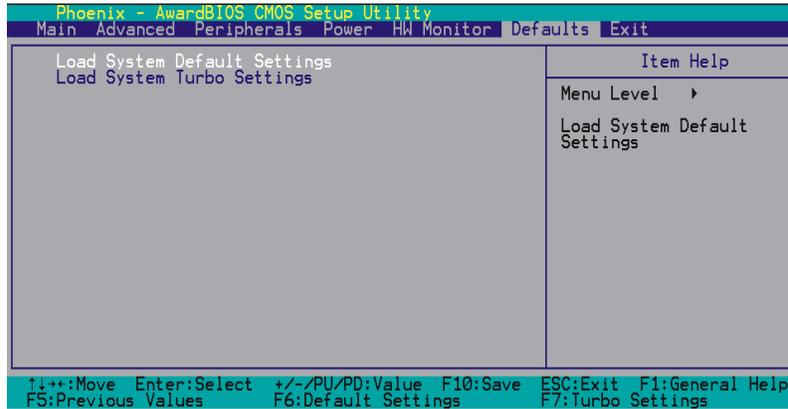
Hardware Monitor



Case Open Warning

If this function is set to “Enabled” and the case had been previously opened, the system will automatically display alert messages on the screen when you power on your computer. If this function is set to “Disabled”, the system will not show alert messages when you power on your computer even if the case had been previously opened. Options: Disabled (default) \ Enabled

Load Defaults



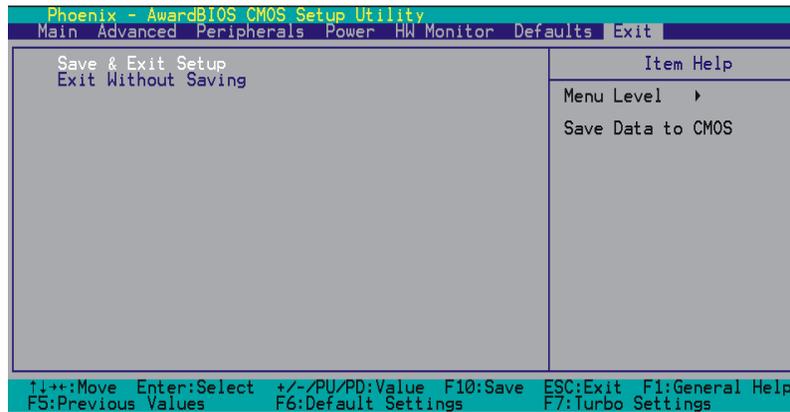
Load System Default Settings

Load System Default Settings.

Load System turbo Settings

Load System Turbo Settings.

Exit Menu



Save & Exit Setup

Save all configuration changes to CMOS (memory) and exit setup. A confirmation message will be displayed before proceeding.

Exit Without Saving

Abandon all changes made during the current session and exit setup. A confirmation message will be displayed before proceeding.

Chapter 3: Software Setup

Software List

The following list is the software and drivers supplied with the bundled Driver CD

Category	Platform
Microsoft DirectX 9.0b	Windows 9X /ME /2000 /XP
nForce Chipset Driver	Windows 9X /ME /2000 /XP
USB 2.0 Driver	Windows 9X /ME
Marvell Lan Driver	Windows 9X /ME /2000 /XP
Trend PC-Cillin 2002	Windows 9X /ME /2000 /XP
Adobe Acrobat Reader5.1	Windows 9X /ME /2000 /XP
VCT 1.03	Windows 2000 /XP

Software Installation

© The screen images are for general reference only. The version of the screens that you receive with your software may vary slightly.

Place the Driver CD into the CD-ROM drive. The Installation Utility should automatically start up. You can also launch the Installation Utility manually by executing the **nVIDIA.exe** program on the Driver CD. The example installation in this document is for a Windows® XP operating system. Follow the steps below (for more details, please refer to the Readme.txt files located in each folder of the Driver CD).

1. The first screen (Driver Menu) will display several driver installation buttons. For the most optimal conditions, we suggest that you that you first select the Microsoft Direct X 9.0b installation button (more recent versions may appear on the button depending on your installation software).



We suggest that you install the drivers in the sequence below:

1. DirectX 9.0b (or later)
2. nForce Chipset Driver
3. USB2.0 Driver
4. Marvell Lan Driver (only for KX18DS PRO II).

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- nForce Chipset Driver – Provides all the drivers needed for the Northbridge/Southbridge. It also includes the audio driver.

Note: When you install “nForce Chipset Driver” with Windows® 98, always use your original Windows® 98 OS CD-ROM when prompted to locate Windows drivers. Otherwise, it could result in procedural problems during the setup. We also recommend that you install the “nVIDIA IDE SW” during Windows® XP installation.

- USB2.0 Driver – Provides the USB driver required for USB2.0 version compatibility. The USB 2.0 installation screen will display as shown left. If your system is Windows 9X or ME click the “USB 2.0 Driver for Windows 9X/ME” button. Otherwise, click on <http://windowsupdate.microsoft.com/>



- Marvell Lan Driver (only for KX18DS PRO II) – Provides the driver for Marvell (Gb) Networking installation.

2. Click the “Tool Menu” button and the screen will display as below. This screen displays all of the software that you can install from the Driver CD.



- Trend PC-Cillin 2004 – Installs the Trend PC-Cillin software.
- Arobat Reader 5 – Installs the Adobe Acrobat Reader program for reading pdf files.
- Microsoft DirectX – Installs Microsoft DirectX.
- VCT – Installs Virtual Cable Tester for Gb LAN.

3. If you click the “Browse CD” button, you can browse all the files in the Driver CD.

4. Click “Exit” button to exit the program.

Chapter 4: Troubleshooting

Problem 1:

No power to the system. Power light does not illuminate. Fan inside power supply does not turn on. Indicator lights on keyboard are not lit.

Causes:

1. Power cable is unplugged.
2. Defective power cable.
3. Power supply failure.
4. Faulty wall outlet; circuit breaker or fuse blown.

Solutions:

1. Make sure power cable is securely plugged in.
2. Replace cable.
3. Contact technical support.
4. Use different socket, repair outlet, reset circuit breaker or replace fuse.

Problem 2:

System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is active but system seems “hung”

Causes: Memory DIMM is partially dislodged from the slot on the mainboard.

Solutions:

1. Power Down
2. Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

Problem 3:

System does not boot from the hard disk drive but can be booted from the CD-ROM drive.

Causes:

1. Connector between hard drive and system board unplugged.
2. Damaged hard disk or disk controller.
3. Hard disk directory or FAT is corrupted.

Solutions:

1. Check the cable running from the disk to the disk controller board. Make sure both ends are securely attached. Check the drive type in the standard CMOS setup.
2. Contact technical support.
3. Backing up the hard drive is extremely important. Make sure you periodically perform backups to avoid untimely disk crashes.



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Problem 4:

System only boots from the CD-ROM. The hard disk can be read and applications can be used but booting from the hard disk is impossible.

Causes: Hard Disk boot sector has been corrupted.

Solutions: Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

Problem 5:

Error message reading “SECTOR NOT FOUND” displays and the system does not allow certain data to be accessed.

Causes: There are many reasons for this such as virus intrusion or disk failure.

Solutions: Back up any salvageable data. Then performs low level format, partition, and then a high level format the hard drive. Re-install all saved data when completed.

Problem 6:

Screen message says “Invalid Configuration” or “CMOS Failure.”

Causes: Incorrect information entered into the BIOS setup program.

Solutions: Review system’s equipment. Reconfigure the system.

Problem 7:

The Screen is blank.

Causes: No power to monitor.

Solutions: Check the power connectors to the monitor and to the system.

Problem 8:

Blank screen.

Causes:

1. Memory problem.
2. Computer virus.

Solutions:

1. Reboot computer. Reinstall memory. Make sure that all memory modules are securely installed.
2. Use anti-virus programs to detect and clean viruses.

Problem 9:

Screen goes blank periodically.

Causes: Screen saver is enabled.

Solutions: Disable screen saver.



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Problem 10:

Keyboard failure.

Causes: Keyboard is disconnected.

Solutions: Reconnect keyboard. Replace keyboard if you continue to experience problems.

Problem 11:

No color on screen.

Causes:

1. Faulty Monitor.
2. CMOS incorrectly set up.

Solutions:

1. If possible, connect monitor to another system. If no color appears, replace monitor.
2. Call technical support.

Problem 12:

The screen displays "C: drive failure."

Causes: Hard drive cable not connected properly.

Solutions: Check hard drive cable.

Problem 13:

Cannot boot the system after installing a second hard drive.

Causes:

1. Master/slave jumpers not set correctly.
2. Hard drives are not compatible / different manufacturers.

Solutions:

1. Set master/slave jumpers correctly.
2. Run SETUP program and select the correct drive types. Call drive manufacturers for possible compatibility problems with other drives.

Problem 14:

Missing operating system on hard drive.

Causes: CMOS setup has been changed.

Solutions: Run setup and select the correct drive type.

Problem 15:

Certain keys do not function.

Causes: Keys jammed or defective.

Solutions: Replace keyboard.

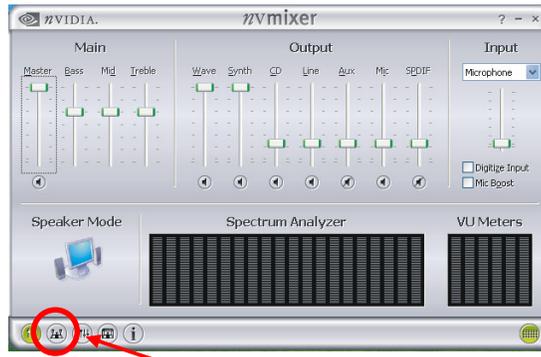


Appendix I: 5.1 Channel Setup

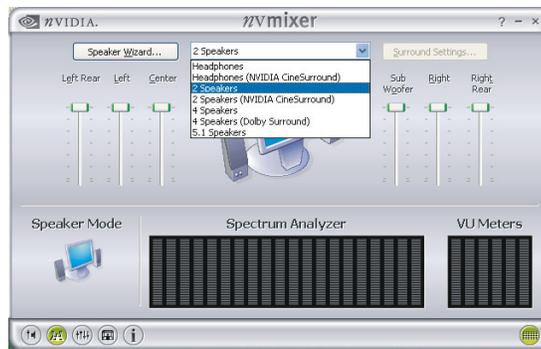
1. On your desktop, double-click the “NVIDIA NV Mixer” icon that is located on the desk bar.



2. When the “NVIDIA NV Mixer” screen displays, select the second one button on the screen below left.

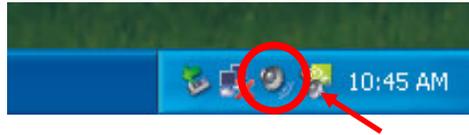


3. On the next screen, you can choose 2, 4 or 5.1 speakers.

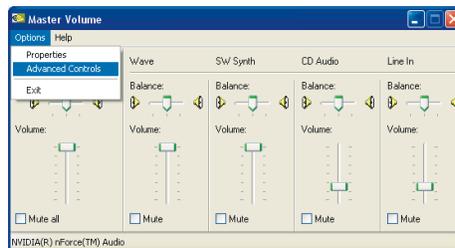


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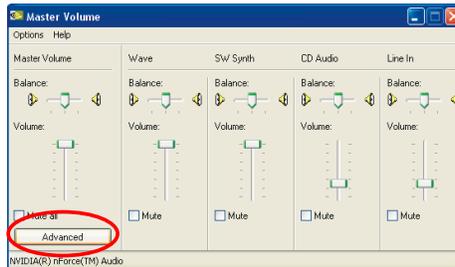
4. Next, on your desktop, double click the volume icon that is on the desk bar.



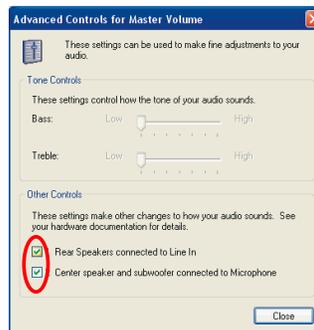
5. On the “Master Volume” screen, select “Options → Advanced Controls”.



6. Next, click the “Advanced” button.



7. In the “Other Controls” section of the “Advanced Controls of Master Volume” screen, check the “Rear Speaker connected to Line In” and “Center speaker and subwoofer connected to Microphone”. This is the final step in configuring “5.1 Channel Audio Effect”.



Appendix II: RAID Setup

Introduction to RAID

RAID (Redundant Array of Independent Disks) technology is a sophisticated disk management system that manages multiple disk drives. It enhances I/O performance and provides redundancy in order to prevent the loss of data in case of individual disk failure. The RAID facility on this board provides RAID 0, RAID 1, RAID 0+1 and RAID SPAN. The total number of drives you can apply depends on the number of connectors on your board. A board with 2 PATA connectors and 2 SATA connectors can connect up to 6 drives (4 PATA drives and 2 SATA drives). However one of the PATA drives may be used for the CD-ROM drive, in which case the maximum number of drives will be 5. The descriptions below are based on 2 PATA connectors and 2 SATA connectors.

Disk Striping (RAID 0)

Striping is a performance-oriented, non-redundant disk storage technology. With RAID striping, multiple disks are used to form a larger virtual disk. Data is then striped or mapped across all the physical disks. In this way, multiple I/O operations can be executed in parallel, enhancing performance. Striping does not provide fault tolerance. The minimum number of hard drives for RAID 0 is 2.

Disk Mirroring (RAID 1)

With Disk Mirroring there are redundant disks that mirror the primary disks. Data that is written to the primary disks are also written to the redundant disks. This redundancy provides fault tolerant protection from a single disk failure. If a read/write failure occurs on one drive, the system can still read and write data using the other drive. The minimum number of drives for a RAID 1 configuration is 2. You are required to use an even number of drives.

Disk Striping + Mirroring (RAID 0+1)

This mode combines both the performance benefits of RAID 0 with the fault tolerance of RAID 1. The minimum number of drives for RAID 0+1 configuration is 4 drives. This configuration also requires an even number of drives. **Note:** All mirrored configurations or striped/mirrored configurations should use drives of the same size.

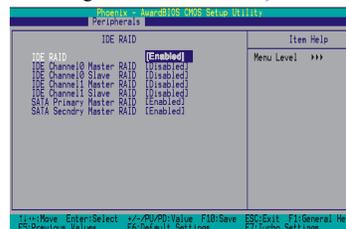
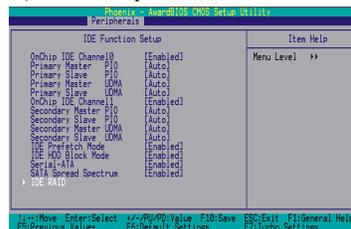
RAID SPAN

RAID SPAN allows JBOD (Just a Bunch Of Disks) configurations which simply uses multiple disks to form a larger virtual disk without any other specialized disk management functionality. RAID SPAN is not considered a standard RAID implementation.

Before create RAID Array

Before you configure your RAID Array, you have to enable the “IDE RAID” option in the BIOS Setup Utility.

1. After you boot your system, press the “Del” key when prompted to enter the BIOS Setup Utility.
2. The “IDE RAID” option for enabling RAID will be found on the “Peripherals” screen as part of the “IDE Function Setup” section shown as below-left (Peripherals >> IDE Function Setup >> IDE RAID). Arrow down to the IDE RAID item and press enter.
3. On the “IDE RAID” screen (shown below-right), enable the disks that you want to use as RAID disks (in this example there are two SATA hard drives configured as RAID disks).



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NVIDIA RAID Utility Configuration

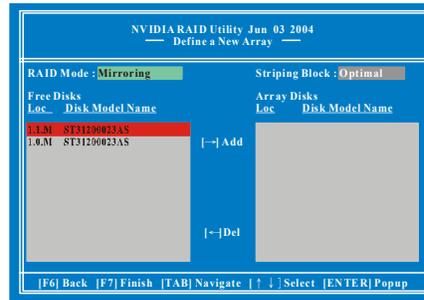
The NVIDIA RAID Utility is used to configure RAID disk management into your hard disks. This section will explain how to setup and maintain your RAID disk drives.

Starting up the NVIDIA BIOS RAID Utility

When the system boots up during the POST (Power-On Self Test), you will be given an opportunity to enter the NVIDIA BIOS RAID Utility when the screen prompts you with following message:

Press F10 to enter RAID setup utility

Press the <F10> key to enter the NVIDIA BIOS RAID utility (note that you will only have a short window of time to press <F10> before the system continues with the next step of the boot process). The Raid Utility screen will display as shown right.



Associating Screen Drive Names with Physical Drives on the Board

This section explains how to associate the drives listed on the “Define a New Array” screen with the physical drives attached to the connectors on the mainboard. This becomes important when identifying drives that need to be replaced or changed.

Channel, Controller, Master/Slave

Located here are 3 identifiers separated by periods. These identifiers represent the Channel, Controller, and Master/Slave ID for a drive. With these identifiers, you can associate the drives on this screen with a physical connector and drive on the board.

Channel 0 – Represents one of the PATA connectors

Channel 1 – Represents one of the SATA connectors

Controller 0 – 1st connector (e.g. PATA1 or SATA1)

Controller 1 – 2nd connector (e.g. PATA2 or SATA2)

Master/Slave – SATA drives will always be Master drives since an SATA connector can only support 1 drive. PATA connectors can support a Master and a Slave drive.

Examples:

On a board with 4 connectors (PATA1, PATA2, SATA1, SATA2), the following applies:

0.0.M = PATA1 (master drive)

0.0.S = PATA1 (slave drive)

0.1.M = PATA2 (master drive)

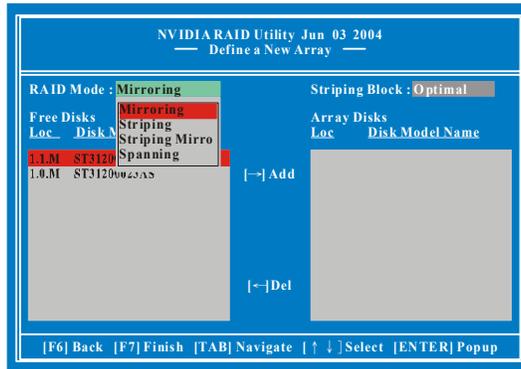
0.1.S = PATA2 (slave drive)

1.0.M = SATA1

1.1.M = SATA2

Creating New RAID Array

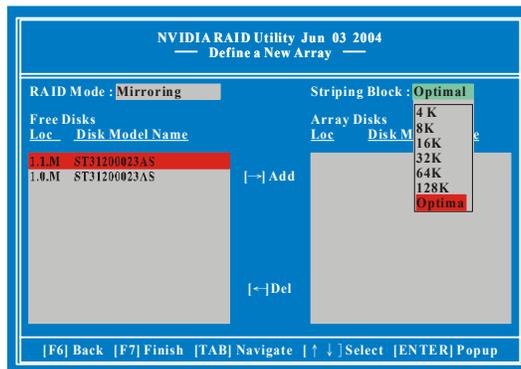
1. The first screen you will see upon initial configuration is the “Define New Array” screen. First, tab over to the “RAIDMode” text box and press <Enter>. The pop up menu will display as shown below. According to your configuration requirements, select “Mirroring” (RAID 1), “Striping” (RAID 0), “Striping Mirroring” (RAID 0+1) or “Spanning” (JBOD). Then press <Enter>.



Attention

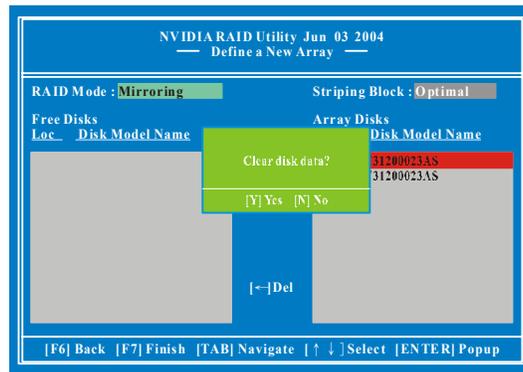
The “Loc” and “Disk Model Name”, located on this screen reflect the disk drives installed on the PATA or SATA connectors. The example disk drive information may differ with the information that displays on your screen.

2. Next, <Tab> over to the “Striping Block” option and press <Enter>. A pop menu will display as shown below. With this option you can manually select the striping block size for your array. This option will affect data access performance. We recommend that you to select “Optimal” option for automatic configuration. Press <Enter>.



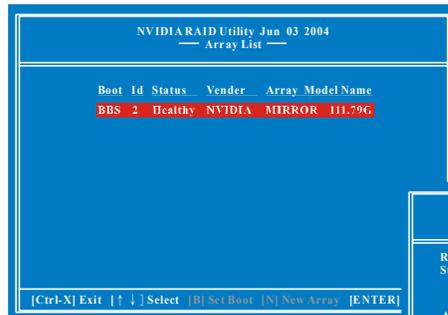
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- Next, in the “Free Disks” section, you can use the up/down arrow keys to select disks to be used in your RAID array. After highlighting a disk, use the right-arrow key to activate the disk as part of the RAID Array. The selected disk will move over to the “Array Disks” section. You can use the left-arrow key to reverse your selection. After you finish selecting all your disks, Press <F7>. A confirmation message will display as shown below. Then press <Y> to complete the RAID array creation.

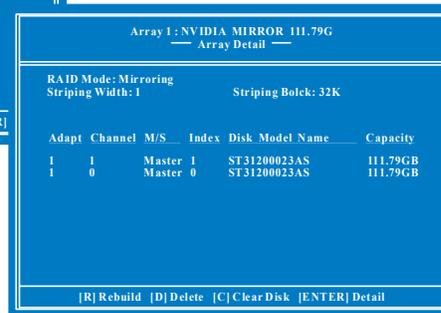


- After the array has been successfully created, the Array List screen will display as shown below-left. You can press the Enter key to view the RAID details in the “Array Detail” screen.

RAID 1 mode (Array List)



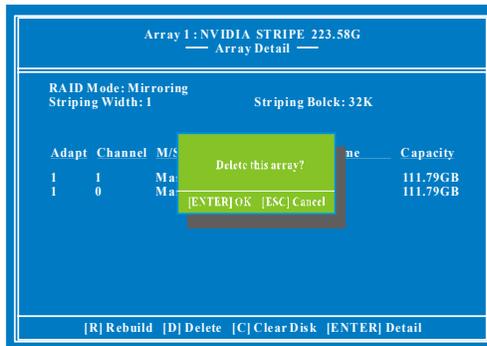
RAID 1 mode (Array Detail)



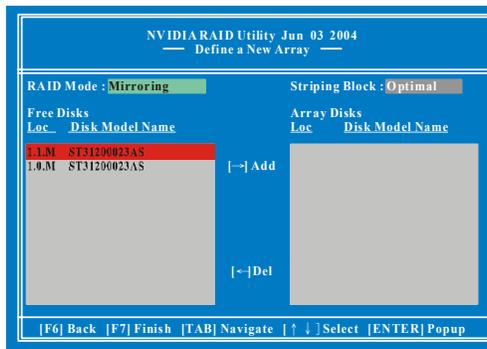
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Deleting an Array

1. You can delete an existing array on the “Array Detail” screen. Press the <D> key. A warning/confirmation message will display (as shown below). Press <Y> to confirm.



2. After the array is successfully deleted, the screen will display as shown below.



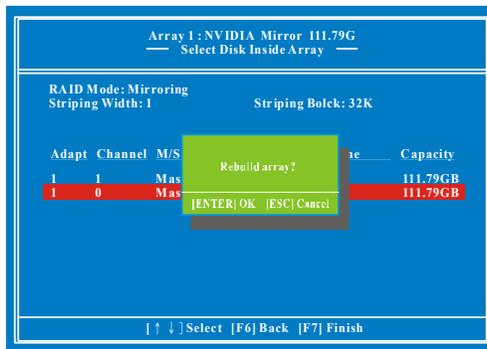
Rebuilding a RAID Mirrored Array

This section applies to Mirrored or Striped/Mirrored RAID configurations and describes how to reestablish the integrity of a mirrored environment after replacing one of the drives (typically because of a single disk failure). After replacing the errant drive, the rebuild process will move data from its mirrored sibling drive (the drive with information still intact) to the newly installed drive. This only applies to mirrored configurations (RAID 1 and RAID 0+1).

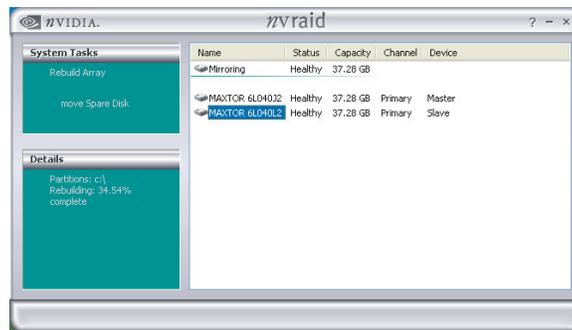
Before you rebuild a RAID Mirrored Array

Before you begin rebuilding a RAID Mirrored Array, you must copy the “NvRaidMan.exe” file from the bundled CD Driver to your C: drive. 【CD File Location Path => D: \ Driver \ nForce \ 4.24 \ IDE \ WIN2K (or WINXP) \ NvRaidMan.exe】

1. To rebuild a mirrored array, bring up the NVIDIA RAID Utility. From the “Array List” screen, select the array with the newly installed drive. Then go to the “Array Detail” screen (press Enter). Then press the <R> key and use the up/down arrow keys to select the hard drive that you just installed. Then press <F7>. A confirmation message will display (as shown below). Press <Y> to confirm. Then press <Ctrl-X> to exit the “NVIDIA RAID Utility” setup.



2. Launch the NVRAID Management utility by double-clicking the NvRaidMan.exe that has been copied to the C: drive. You can view the status of rebuilding under the Details section from the screen as shown below.



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Installing RAID Drivers during Windows Installation

Installation of RAID drivers is done during the Windows installation. These steps assume that the hard disks have already been connected to either the PATA or SATA connectors. It is also assumed that the BIOS RAID Utility has already been configured (see NVIDIA BIOS RAID Utility Configuration section) and you have begun the Windows operating system installation.

Preparation: Before beginning with the steps in this section copy the “RAID Driver” and associated files from the bundle CD Driver to an empty floppy disk [Location of files on CD-ROM => \Driver \nForce \ 4.24 \ IDE \ WIN2K (or WINXP) \ *.*]. This will have to be done on another system if you are installing the system from scratch.

1. During Windows installation, the “Windows Setup” screen will prompt you with “Press F6 if you need to install third party SCSI or RAID driver”. Press <F6>.
2. Press 's' when setup asks if you want to specify an additional device. Insert the floppy disk which includes the “RAID Driver” into the floppy drive. Press 'Enter' and select the appropriate OS device driver.
3. Press 'Enter' again to continue the setup process.
4. Follow the setup instructions and select your choice for partition and file system.
5. After setup examines your disks, it will copy files to the Windows® 2000/ XP installation folders and restart the system. After the system is rebooted the setup program will continue with the installation all the way to completion.
6. Wait until Windows® 2000/ XP finishes installing devices, regional settings, networking settings, components, and the final set of tasks. Reboot the system if you are asked to do so.



Attention

The RAID array can only functions in the Windows® 2000/ XP.