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Static Electricity Precautions

1. Don't take this motherboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Carefully hold this motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

Pre-Installation Inspection

1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.

Table of Contents

Notice:

1   Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pop out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. Just click the "Continue Anyway" button and go ahead the installation.

Chapter 1 Introduction

This motherboard has a **LGA775 socket** for latest **Intel® Core™2 Duo/ Celeron® D** processors with **Hyper-Threading Technology** and Front-Side Bus (FSB) speeds up to **1066 MHz**. Hyper-Threading Technology, designed to take advantage of the multitasking features, giving you the power to do more things at once.

It integrates the SiS671 Northbridge and SiS968 Southbridge that supports the Serial ATA interface for high-performance and mainstream desktop PCs; the built-in **USB 2.0** providing higher bandwidth, implementing **Universal Serial Bus Specification Revision 2.0** and is compliant with **OHCI 1.1** and **EHCI 2.0**. It supports **High Definition Audio Codec** and provides **Ultra DMA 133**/ 100/66/33 function. It has one **PCI Expressx16**, one **PCI Expressx1**, and two 32-bit **PCI** slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one VGA port, one optional LAN port, four back-panel USB 2.0 ports and Audio jacks for microphone, line-in and 6/8-channel (optional) line-out.

It is a **Micro ATX** motherboard and has power connectors for an ATX power supply.

Key Features

The key features of this motherboard include:

LGA775 Socket Processor

- Supports the latest **Intel® Core™2 Duo/Celeron® D** processors with **Hyper-Threading Technology**
- Supports up to **1066 MHz** Front-Side Bus

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

Chipsets

There are **SiS671 Northbridge** and **SiS968** in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance.

- High Performance Host Interface: Supports **Intel® Core™2 Duo/ Celeron® D** processor family with FSB 1066 MHz
- Hyper-Threading Technology

- System Memory Controller Support: DDR2 SDRAM with up to maximum memory of 4 GB.
- PCI Express Graphics Interface Support: One PCI Express x16 port
- PCI Bus Interface Support: PCI Revision 2.3 Specification
- Integrade Serial ATA Host Controller: Independent DMA operation on two ports with Data transfer rates up to 3.0 Gb/s
- Intgrated IDE Controller: Ultra DMA-133/100/66/33 Bus Master EIDE Controller
- USB 2.0: Integrated USB 2.0 interface, supporting up to eight functional ports

Memory Support
- Two 240-pin DIMM sockets for DDR2 SDRAM memory modules
- Supports **DDR2 667**/533/400 memory bus
- Maximum installed memory is 4 GB

Expansion Slots
- Two 32-bit PCI slots
- One **PCI Expressx16** slot
- One **PCI Expressx1** slot

Onboard IDE channels
- One IDE Connector
- Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- Supports IDE Ultra DMA bus mastering with transfer rates of **133**/100/66/33 MB/sec

Serial ATA
- Two Serial ATA Connectors
- Transfer rate exceeding best ATA (3.0 Gb/s) with scalability to higher rates
- Low pin count for both host and devices

Audio

• 5.1 Channel High Definition Audio Codec • ADCs support 44.1k/48k/96kHz sample rate • Meet Microsoft WLP 3.08 Vista premium and mobile PCs audio requirements • Direct Sound 3D™ compatible
• 5.1 Channel High Definition Audio Codec • All DACs support 44.1k/48k/96k/192kHz sample rate • Software selectable 2.5V/3.75V VREFOUT • Meets Microsoft WHQL/WLP 2.x audio requirements • Direct Sound 3D™ compatible

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LAN (Optional)

- 10/100 Mb/s dual speed transceiver
- MII interface for external MAC devices
- 10/100 Mb/s IEEE 802.3 compliant
- IEEE 802.3u Auto-Negotiation

Onboard I/O Ports

- Two PS/2 ports for mouse and keyboard
- One serial port
- One VGA port
- One LAN port (optional)
- Four back-panel USB2.0 ports
- Audio jacks for microphone, line-in and 6/8-channel (optional) line-out

BIOS Firmware

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

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

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

Dimensions

- Micro ATX form factor of 244 x 180 mm

Note: Hardware specifications and software items are subject to change without notification.

Package Contents

Your motherboard package ships with the following items:

- ❑ The motherboard
- ❑ The User's Guide
- ❑ One diskette drive ribbon cable (optional)
- ❑ One IDE drive ribbon cable
- ❑ The Software support CD

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- ❑ The Extended USB module
- ❑ The Serial ATA cable
- ❑ The Serial ATA power cable

Note: You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.

Chapter 2 Motherboard Installation

To install this motherboard in a system, please follow these instructions in this chapter:

- ❑ Identify the motherboard components
- ❑ Install a CPU
- ❑ Install one or more system memory modules
- ❑ Make sure all jumpers and switches are set correctly
- ❑ Install this motherboard in a system chassis (case)
- ❑ Connect any extension brackets or cables to headers/connectors on the motherboard
- ❑ Install peripheral devices and make the appropriate connections to headers/connectors on the motherboard

Note:

1. Before installing this motherboard, make sure jumper CLR_CMOS is under Normal setting. See this chapter for information about locating CLR_CMOS and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.

Motherboard Components
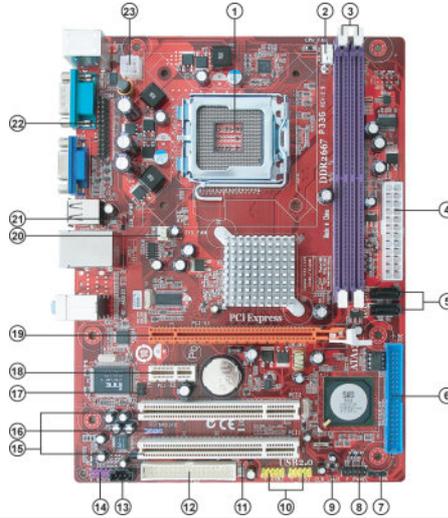
LABEL	COMPONENTS
1. CPU Socket	LGA775 Socket for Intel® Core™ 2 Duo/Celeron® D processors
2. CPU_FAN	CPU cooling fan connector
3. DDRII1~2	240-pin DDR2 SDRAM slots
4. PWR	Standard 24-pin ATX power connector
5. SATA1~2	Serial ATA connectors
6. IDE	Primary IDE connnector
7. SPK	Speaker header
8. F_PANEL	Front panel switch/LED header
9. CLR_CMOS	Clear CMOS jumper
10. F_USB1~2	Front Panel USB headers
11. USB_FPWR	Front USB Power Select jumper
12. FDD	Floppy disk drive connector
13. CD_IN	Analog audio input connector
14. F_AUDIO	Front panel audio header
15. PCI1~2	32-bit add-on card slots
16. SPDIFO	SPDIF out header
17. IR1	Infrared header
18. PCI-E2	PCI Express x1 slot
19. PCI-E1	PCI Express x16 slot for graphics interface
20. SYS_FAN	System cooling fan connector
21. USB_RPWR	Rear USB Power Select jumper
22. LPT	Parallel port header
23. ATX12V	Standard 4-pin ATX Power connector

I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.
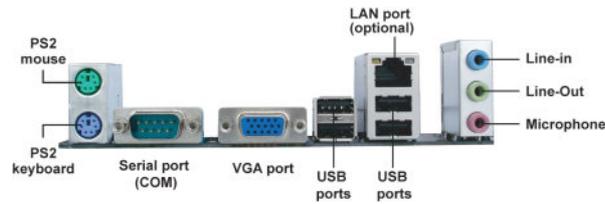
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
COM1	Use the COM port to connect serial devices such as mice or fax/modems.
VGA	Use the VGA port to connect VGA devices.
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB Ports	Use the USB ports to connect USB devices.
Audio Ports	Use these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone.

Installing the Processor

This motherboard has a **LGA775** socket for the latest **Intel® Core™2 Duo/ Celeron® D** processors. 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

Follow these instructions to install the CPU:
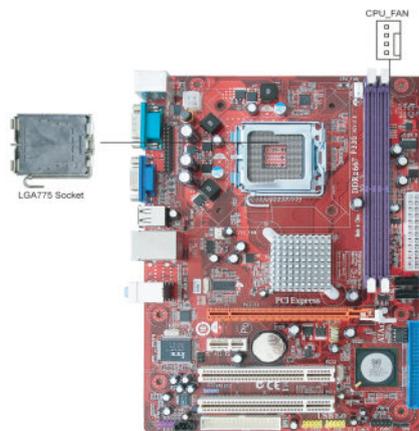
A. Read and follow the instructions shown on the sticker on the CPU cap.

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

C. Open the load plate
   - Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
   - Lift up the lever.
   - Use thumb to open the load plate. Be careful not to touch the contacts.

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

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E. Close the load plate
   - Slightly push down the load plate onto the tongue side, and hook the lever.
   - CPU is locked completely.
F. Apply thermal grease on top of the CPU.
G. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.
H. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for mor detail installation procedure.

Note 1: To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/ heatsink supplied. The form and size of fan/heatsink may also vary.

Note 2: The fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.

Note 3: Do Not remove the CPU cap from the socket before installing a CPU.

Note 4: Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA775 socket.

Installing Memory Modules

This motherboard accommodates two 240-pin DIMM sockets (Dual Inline Memory Module) for unbuffered **DDR2 667**/533/400 memory modules (Double Data Rate SDRAM), and maximum 4 GB installed memory.

Over its predecessor, DDR-SDRAM, DDR2-SDRAM offers greater bandwith and density in a smaller package along with a reduction in power consumption. In addition, DDR2-SDRAM offers new features and functions that enable a higher clock rate and data rate operations of 400 MHz, 533 MHz and 667 MHz. DDR2 transfer 64 bits of data twice every clock cycle.

9
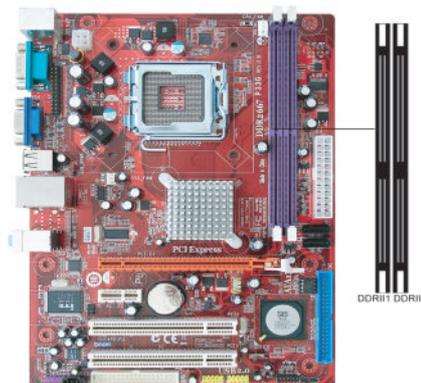
Memory Module Installation Procedure

These modules can be installed with up to 4 GB system memory. Refer to the following to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.
3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.
4. Install any remaining DIMM modules.
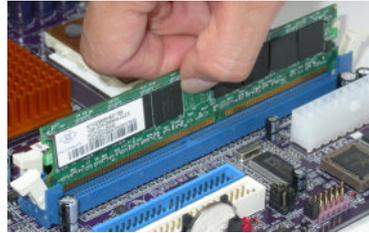
Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.
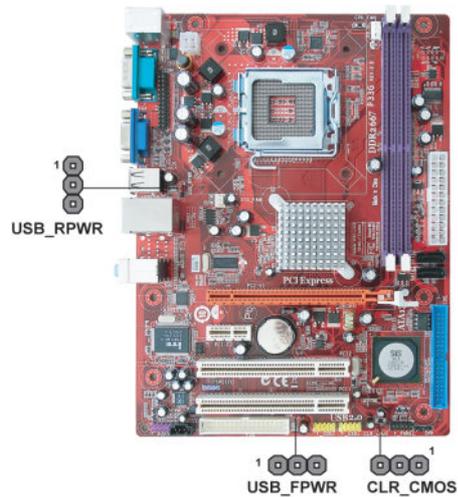
CLR_CMOS: Clear CMOS Jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds.

Function	Jumper Setting
Normal	Short Pins 2-3
Clear CMOS	Short Pins 1-2
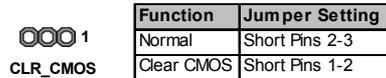
Note: To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimal De-faults" and then "Save Changes and Exit".

USB_FPWR/USB_RPWR: USB Power Select Jumper

Use these jumpers to select the voltage for USB port.

Function	Jumper Setting
VCC	Short Pins 1-2
5VSB	Short Pins 2-3
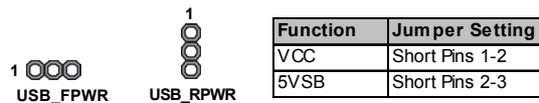
Note:1. Make sure the power supply provides enough SB5V voltage before selecting the SB5V function.

　　　　2. It is required that users place the USBPWR_F & USBPWR_R cap onto 2-3 pin rather than 1-2 pin as default if you want to wake up the computer by USB/PS2 KB/Mouse.

Install the Motherboard

Install the motherboard in a system chassis (case). The board is a Micro ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.

Install the motherboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.
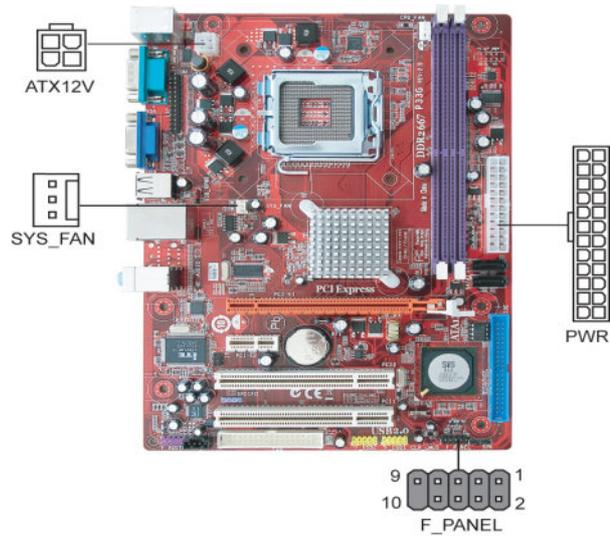
Connect the power connector from the power supply to the **PWR** connector on the motherboard. The **ATX12V** is a +12V connector for CPU Vcore power.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYS_FAN** fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the **F_PANEL** header.

Here is a list of the F_PANEL pin assignments.

Pin	Signal	Pin	Signal
1	HD_LED_P(+)	2	FP PWR/SLP(+)
3	HD_LED_N(-)	4	FP PWR/SLP(-)
5	RESET_SW_N(-)	6	POWER_SW_P(+)
7	RESET_SW_P(+)	8	POWER_SW_N(-)
9	RSVD_DNU	10	KEY

Connecting Optional Devices

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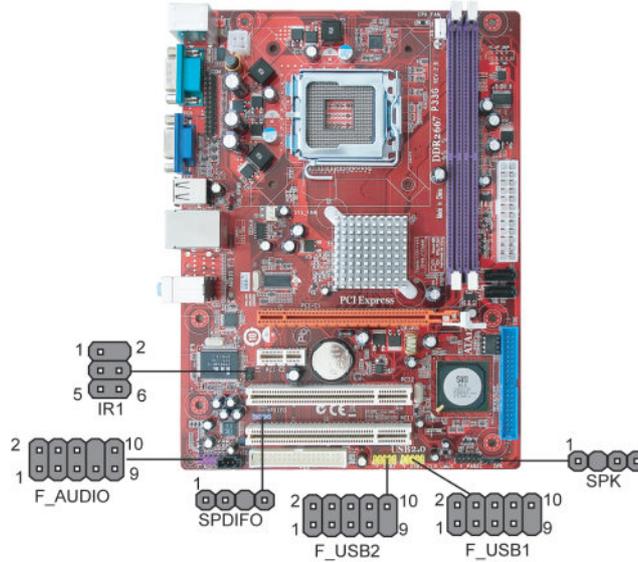
SPK: Speaker Header

Connect the cable from the PC speaker to the SPK header on the motherboard.

Pin	Signal	Pin	Signal
1	VCC	2	Key
3	NC	4	Signal

F_AUDIO: Front Panel Audio Header

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

Pin	Signal	Pin	Signal
1	PORT1L	2	GND
3	PORT1R	4	PRESENCE#
5	PORT2R	6	Sense1_return
7	SENSE_SEND	8	KEY
9	PORT2L	10	Sense2_return

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F_USB1~2: Front panel USB Headers

The motherboard has USB ports installed on the rear edge I/O port array.
Additionally, some computer cases have USB ports at the front of the case. If
you have this kind of case, use auxiliary USB headers F_USB1~2 to connect the
front-mounted ports to the motherboard.

Pin	Signal	Pin	Signal
1	VERG_FP_USBPWR0	2	VERG_FP_USBPWR0
3	USB_FP_P0(-)	4	USB_FP_P1(-)
5	USB_FP_P0(+)	6	USB_FP_P1(+)
7	GROUND	8	GROUND
9	KEY	10	NC

1. Locate the F_USB1~2 header on the motherboard.
2. Plug the bracket cable onto the F_USB1~2 header.
3. Remove a slot cover from one of the expansion slots on the system
   chassis. Install an extension bracket in the opening. Secure the
   extension bracket to the chassis with a screw.

IR1: Infrared Header

The infrared port allows 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	Pin	Signal
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port-**IR1** header on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the
   port to the IR1 header and then secure the port to an appropriate
   place in your system chassis.

SPDIFO: S/PDIF Out Header

S/PDIF (Sony/Philips Digital Interface) is a standard audio transfer file format
and allows the transfer of digatal audio signals from one device to another
without having to be converted first to an analog format. Via a specific audio
cable, you can connect the SPDIFO header (S/PDIF output) on the motherboard
to the S/PDIF digital input on the external speakers or AC Decode devices.

Pin	Signal	Pin	Signal
1	SPDIF OUT	2	5VA
3	KEY	4	GND

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Install Other Devices

Install and connect any other devices in the system following the steps below.
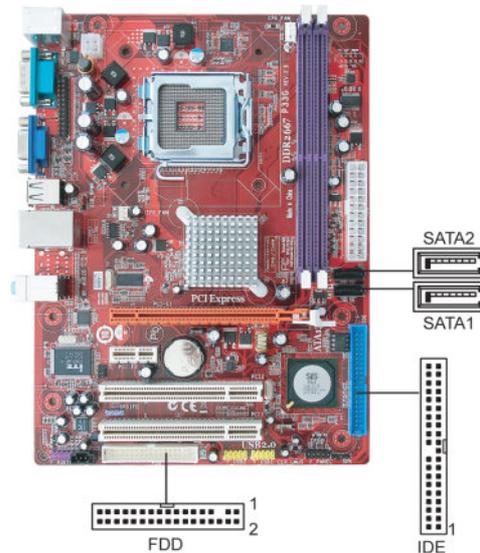
Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360 K, 720 K, 1.2 MB, 1.44 MB, or 2.88 MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDD**.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The motherboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE** on the motherboard.

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Serial ATA Devices

The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **3.0 Gb/s**. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connector on the motherboard.

On the motherboard, locate the Serial ATA connectors **SATA1~2**, which support new Serial ATA devices for the highest data transfer rates, 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.

Analog Audio Input Header

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.
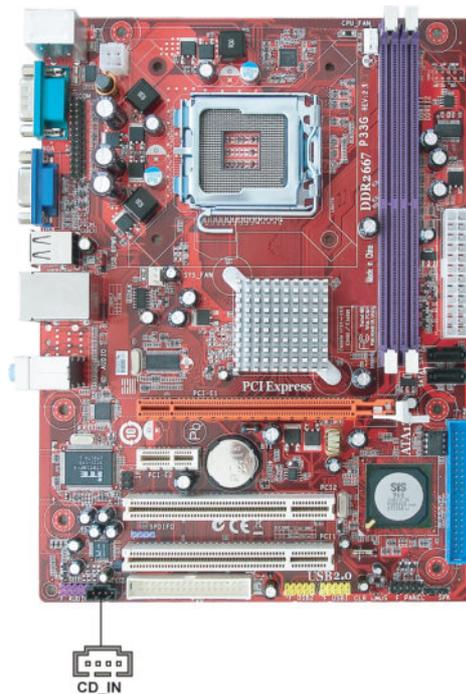
When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD_IN**.

Pin	Signal
1	CD IN L
2	GND
3	GND
4	CD IN R

Expansion Slots

This motherboard has one PCI Ex16, one PCI Ex1 and two 32-bit PCI slots.
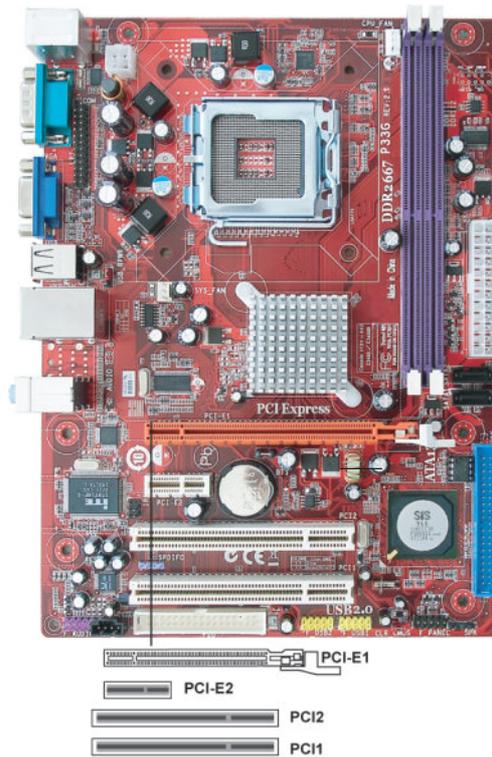
Follow the steps below to install a PCI Express/PCI expansion card.

1   Locate the PCI Express or PCI slots on the motherboard.
2   Remove the blanking plate of the slot from the system chassis.
3   Install the edge connector of the expansion card into the slot. Ensure the edge connector is correctly seated in the slot.
4   Secure the metal bracket of the card to the system chassis with a screw.
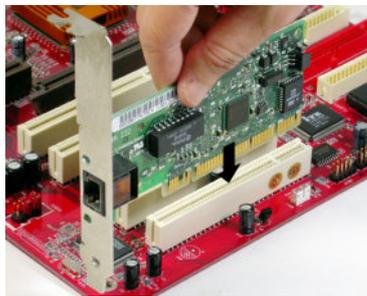
PCI Express x16 Slot

The one PCI Express x16 slot is fully compliant to the PCI Express Base Specification revision 1.1.

PCI Express x1 Slot

The one PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 1.1 as well.

PCI Slots

You can install the 32-bit PCI interface expansion cards in the slots.

Chapter 3 BIOS Setup Utility

Introduction

The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the motherboard, such as the CPU, system memory, disk drives, etc.

Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to "*Hit <DEL>if you want to run SETUP*". Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.

```
        CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc

    ►  Standard CMOS Setup               ►  Frequency/Voltage Control
    ►  Advanced Setup                       Load Default Settings
    ►  Advanced Chipset Setup            ►  Supervisor Password
    ►  Integrated Peripherals            ►  User Password
    ►  Power Management Setup               Save & Exit Setup
    ►  PCI / PnP Setup                      Exit Without Saving
    ►  PC Health Status


           ↑↓←→ Move   Enter: Select   +/-/: Value     F10: Save     Esc: Exit
                F1: General Help            F9: Load Default Settings


            v02.59  (C) Copyright 1985-2005, American Megatrends, Inc.
```

You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/-/ to modify the selected field's values.

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Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting the **[OK]** or **[Cancel]** key.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to load optimtimal settings.

Standard CMOS Setup Page

This page displays a table of items defining basic information of your system.

```
         CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                                   Standard CMOS Setup

    Date                    Thu 01/18/2007              Help Item
    Time                    00:00:41

    ▶ Primary IDE Master    ATAPI CDROM           User [Enter], [TAB]
    ▶ Primary IDE Slave     Not Detected          or [SHIFT-TAB] to
    ▶ S-ATA1                Not Detected          select a field.
    ▶ S-ATA2                Not Detected
                                                  Use [+] or [-] to
    IDE BusMaster           Enabled               configure system Time.

    Drive A                 1.44 MB 3¹/₂

         ↑↓←→ : Move   Enter: Select   +/-: Value    F10: Save   Esc: Exit
                  F1: General Help        F9: Load Default Settings
```

Date & Time
These items set up system date and time.

Primary IDE Master/Primary IDE Slave

Use these items to configure devices connected to the Primary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting *CDROM*. If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120), select *Floptical*.

S-ATA1/2
These items display the status of auto detection of saa devices when "Onboard SATA-IDE" sets to "IDE".

IDE BusMaster
This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

Drive A
The item defines the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

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Advanced Setup Page

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                              Advanced Setup
┌─────────────────────────────────────────────────┬──────────────────────────┐
│ Thermal Management          Enabled              │       Help Item          │
│ TM Status                   TM1                   │                          │
│ Limit CPUID MaxVal          Disabled             │ For the processor its    │
│ Enhanced Halt (C1E)         Enabled              │ CPUID belows 0F41h.      │
│ Intel XD Bit                Disabled             │ TM2 only can be enable   │
│ Intel EIST                  Enabled              │ under below setting.      │
│ Intel Virtualization Technol Enabled             │ 1. Freq. >=3.6GHz FSB800  │
│ Quick Power on Self Test    Enabled              │ 2. Freq. >=2.8GHz FSB533  │
│ Bootup NumLock Status       On                   │                          │
│ APIC Mode                   Enabled              │                          │
│ 1st Boot Device             Hard Drive           │                          │
│ 2nd Boot Device             PIONEER DVD-ROM DVD  │                          │
│ 3rd Boot Device             1st FLOPPY DRIVE     │                          │
│ ► Removable Drives          Press Enter          │                          │
│ ► CD/DVD Drives             Press Enter          │                          │
│ Boot Other Device           Yes                  │                          │
│                                                  │                          │
├─────────────────────────────────────────────────┴──────────────────────────┤
│    ↑↓←→ : Move   Enter: Select   +/-: Value    F10: Save   Esc: Exit         │
│              F1: General Help          F9: Load Default Settings             │
└──────────────────────────────────────────────────────────────────────────────┘
```

Thermal Management

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

    •   **TM Status (TM1)**: This item displays CPU Monitor status.

Limit CPUID MaxVal

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

Enhanced Halt (C1E)

This item enables or disables enhanced halt.

Intel XD Bit

This item allows users to enable or disable the Intel XD bit.

Intel EIST

This item allows users to enable or disable the EIST(Enhanced Intel SpeedStep Technology).

Intel Virtualization Technol

When ebabled, a VMM can utilize the additional hardware capabilities provided by vandor pool technology.

Quick Power on Self Test

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.

Boot Up NumLock Status

This item set the Num-Lock key to be on or off after bootup.

APIC Mode

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

1st Boot Device/2nd Boot Device/3rd Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

▶ **Removable Drives (Press Enter)**

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

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                        Removable Drives
┌──────────────────────────────────────────┬─────────────────────┐
│ Removable Drives                          │     Help Item       │
│                                           │                     │
│ 1st Drive              1st FLOPPY DRIVE   │ Specifies the boot  │
│                                           │ sequence from the   │
│                                           │ available devices.  │
│                                           │                     │
│                                           │                     │
│                                           │                     │
├──────────────────────────────────────────┴─────────────────────┤
│    ↑↓←→  : Move  Enter: Select  +/-/: Value   F10: Save  Esc: Exit│
│            F1: General Help        F9: Load Default Settings      │
└─────────────────────────────────────────────────────────────────┘
```

Press <Esc> to return to Advanced Setup screen.

▶ **CD/DVD Drives (Press Enter)**

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

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                          CD/DVD Drives
┌──────────────────────────────────────────┬─────────────────────┐
│ CD-DVD Drives                             │     Help Item       │
│                                           │                     │
│ 1st Drive            PIONEER DVD-ROM DVD  │ Specifies the boot  │
│                                           │ sequence from the   │
│                                           │ available devices.  │
│                                           │                     │
│                                           │                     │
├──────────────────────────────────────────┴─────────────────────┤
│    ↑↓←→  : Move  Enter: Select  +/-/: Value   F10: Save  Esc: Exit│
│            F1: General Help        F9: Load Default Settings      │
└─────────────────────────────────────────────────────────────────┘
```

Press <Esc> to return to Advanced Setup screen.

Boot Other Device

When enabled, the system searches all other possible locations for operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Press <Esc> to return to the main menu page.

Advanced Chipset Setup Page

This page sets up more advanced chipset information about your system. Handle this page with caution. Any changes can affect the operation of your computer.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                        Advanced Chipset Setup

  CAS Latency Time              By SPD              Help Item
  Aperature Size Select         128MB
  Share Memory Size             64MB                   Options

                                                  By SPD
                                                  3T
                                                  4T
                                                  5T



          ↑↓←→   : Move   Enter: Select   +/-: Value   F10: Save   Esc: Exit
                   F1: General Help          F9: Load Default Settings
```

CAS Latency Time
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 designer.

Aperture Size Select
This item enables you to select the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

Share Memory Size
This item shows the VGA memory size borrowed from main memory capability. In this case, 64MB is borrowed, which in the meanwhile the same the main memory loses.

Integrated Peripherals Page

This page sets up some parameters for peripheral devices connected to the system.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                        Integrated  Peripherals

  OnBoard IDE Controller        Primary            Help Item
  SATA Mode Selection           IDE
  USB  Controller               Enabled       DISABLED: disables
  Legacy USB Support            Enabled       the integrated IDE
  OnBoard Audio DEVICE          HDA DEVICE    Controller.
  OnBoard SiS191 Lan DEVICE     Enabled       PRIMARY: enables only
  Onboard LAN Boot ROM          Disabled      the Primary IDE
  Serial Port1 Address          3F8/IRQ4      Controller.
  OnBoard IR                    Disabled


        ⋀⋁⟵⟶ : Move   Enter: Select   +/-/: Value    F10: Save   Esc: Exit
                 F1: General Help          F9: Load Default Settings
```

OnBoard IDE Controller

Use this item to enable or disable the onboard IDE controllers.

SATA Mode Selection

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

USB Controller

Enables or disables the onboard USB controller. We recommend users keep the default value. Disabling it might cause the USB devices not to work properly.

Legacy USB Support

This item allows you to enable or disable Legacy USB support.

OnBoard Audio DEVICE

Enables or disables the onboard Audio.

OnBoard SiS191 Lan DEVICE

This item allows you to control the onboard SiS191 Lan device.

OnBoard LAN Boot ROM

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

Serial Port1 Address

Use this item to enable or disable the onboard COM1/2 serial port, and to assign a port address.

OnBoard IR

Use this item to enable or disable the onboard infrared port, and to assign a port address.

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Power Management Setup Page

This page sets some parameters for system power management operation.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                        Power Management Setup
┌──────────────────────────────────────────┬────────────────────────┐
│ ACPI Suspend Type           S3 (STR)      │     Help Item          │
│ Soft-off by PWR-BTTN        Delay 4 Sec   │                        │
│ PWRON After PWR-Fail        Power Off      ├────────────────────────┤
│ Wake-up by PME              Enabled       │ Select the ACPI        │
│ Power on by Ring            Disabled      │ state used for         │
│ Resume By USB (S3)          Enabled       │ System Suspend.        │
│ PS2 Keyboard Wakeup         Disabled      │                        │
│ PS2 Mouse Wakeup            Disabled      │                        │
│ PCIE LAN Wake Up            Disabled      │                        │
│ Resume on RTC Alarm         Disabled      │                        │
├──────────────────────────────────────────┴────────────────────────┤
│    ↑↓←→ : Move   Enter: Select   +/-: Value     F10: Save  Esc: Exit │
│            F1: General Help         F9: Load Default Settings        │
└────────────────────────────────────────────────────────────────────┘
```

ACPI Suspend Type

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.

Soft-off by PWR-BTTN

This item lets you install a software power down that is controlled by the power buttonon your system. If the item is set to Instant-Off, then the power button cause 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

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

Wake-up by PME

The system can be turned off with a software command. If you enable this item,the system can automatically resume if there is an incoming call on the PCI Modem or PCI LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI card.

Power On by Ring

An input signal on the serial Ring indicator (RI) line (in other words, and incoming call on the modem) awakens the system from a soft off state.

Resume By USB (S3)

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

PS2 Keyboard Wakeup

This item enables or disables you to allow keyboard activity to awaken the system from power saving mode.

PS2 Mouse Wakeup

This item enables or disables you to allow mouse activity to awaken the system from power saving mode.

PCIE LAN Wake Up

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

Resume On RTC Alarm

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC

(realtime clock). Use the items below this one to set the date and time of the

wake-up alarm. You must use an ATX power supply in order to use this feature.

PCI / PnP Setup Page

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                              PCI / PnP Setup

   Init Display First              PCI              Help Item
   Allocate IRQ to PCI VGA         Yes

                                                   Options

                                               PCI
                                               PCI Express Card
                                               IntVGA



         ↑↓←→  : Move   Enter: Select   +/-/: Value     F10: Save  Esc: Exit
                   F1: General Help         F9: Load Default Settings
```

Init Dispaly First

This item allows you to choose the primary display card.

Allocate IRQ to PCI VGA

If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

PCI Health Status Page

This page helps you monitor the parameters for critical voltages, temperatures and fan speeds.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                              PC Health Status

   Hardware Health Event Monitoring                 Help Item
 ► Smart Fan Function           Press Enter
   Shutdown Temperature         Disabled
   Warning Temperature          Dsiabled
   CPU Temperature              : 57°C/ 134°F
   CPU Fan Speed                : 3835 RPM
   CPU Vcore                    : 1.328 V
   VDIMM                        : 1.792 V



         ↑↓←→  : Move   Enter: Select   +/-/: Value     F10: Save  Esc: Exit
                   F1: General Help         F9: Load Default Settings
```

▶ **Smart Fan Function (Press Enter)**

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

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                          Smart Fan Function

  SMART Fan Control          Disabled                      Help Item

                                                              Options

                                                           Disabled
                                                           Enabled




       ↑↓←→  : Move   Enter: Select   +/-/: Value    F10: Save  Esc: Exit
               F1: General Help         F9: Load Default Settings
```

SMART Fan Control (Disabled)

This item allows you to enable/disable the control of the system fan speed
by changing the fan voltage.

Press <Esc> to return to PC Health Status screen.

Shutdown Temperature

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

Warning Temperature

This item enables you to set the system warning temperature.

System Component Characteristics

These fields provide you with information about the system current
operating status.

- CPU Temperature
- CPU Fan Speed
- CPU Vorce
- VDIMM

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

Frequency/Voltage Control Page

This page helps 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.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                       Frequncey/Voltage Control
┌─────────────────────────────────────────────────┬──────────────────────────┐
│ Manufacturer: Intel                               │       Help Item          │
│ Ratio Status: Unlocked (Min:06, Max:Unlimited)    │                          │
│ Ratio Actual Value: 10                            │ Sets the ratio between CPU│
│ Ratio CMOS Setting              10                │ Core Clock and the FSB   │
│ Auto Detect CPU Frequency       Enabled           │ Frequency.               │
│   CPU Frequency Setting:        266               │ Note:                    │
│ Auto Detect DRAM Frequency      Enabled           │ Only available when      │
│ CPU:DRAM Frequency Ratio        8:5 (667MHZ)      │ SpeedStep technology     │
│ Auto Detect DIMM/PCI Clk        Enabled           │ is disabled.             │
│ Spread Spectrum                 Disabled          │                          │
│ Vdimm Voltage Control           +0.075V           │                          │
│ CPU VID Voltage Control         Normal            │                          │
├─────────────────────────────────────────────────┴──────────────────────────┤
│      ↑↓←→: Move  Enter: Select  +/-: Value     F10: Save  Esc: Exit          │
│              F1: General Help        F9: Load Default Settings               │
└─────────────────────────────────────────────────────────────────────────────┘
```

Manufacturer (Intel)

These items show the brand of the CPU installed in your system.

Ratio Status/Ratio Actual Value

These items show the Locked ratio status and the actual ratio of the CPU installed in your system.

Ratio CMOS Setting

This item allows you to set the ratio between CPU Core Clock and FSB Frequency.

Auto Detect CPU/DRAM Frequency

Auto Detect CPU/DRAM Frequency (Enabled)When this item is enabled, it automatically detects and shows the frequency of the CPU and DRAM memory installed in your system; when disabled, it can adjust the frequency of the CPU and DRAM memory.

Auto Detect DIMM/PCI Clk

This item allows you to enable or disable you to detect DIMM/PCI clock automatically.

Spread Spectrum

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

Vdimm Voltage Control

This item shows the Vdimm Voltage Control function.

CPU VID Voltage Control

This item shows the CPU VID Voltage Control function.

Load Default Settings

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You select [OK], and then <Enter>, the Setup Utility loads all default values; or select [Cancel], and then <Enter>, the Setup Utility does not load default values.

Note: It is highly recommend that users enter this option to load optimal default values for accessing the best performance.

Supervisor Password Page

This page helps you set up some parameters for the hardware monitoring function of this motherboard.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                          Supervisor Password
┌────────────────────────────────────────────────┬──────────────────────┐
│ Supervisor Password : Not Installed             │      Help Item       │
│                                                 ├──────────────────────┤
│ Change Supervisor Password      Press Enter     │ Installed or Change  │
│                                                 │ the password         │
│                                                 │                      │
│                                                 │                      │
│                                                 │                      │
│                                                 │                      │
├─────────────────────────────────────────────────────────────────────┤
│  ↑↓←→  : Move   Enter: Select  +/-/: Value     F10: Save  Esc: Exit   │
│           F1: General Help        F9: Load Default Settings           │
└───────────────────────────────────────────────────────────────────────┘
```
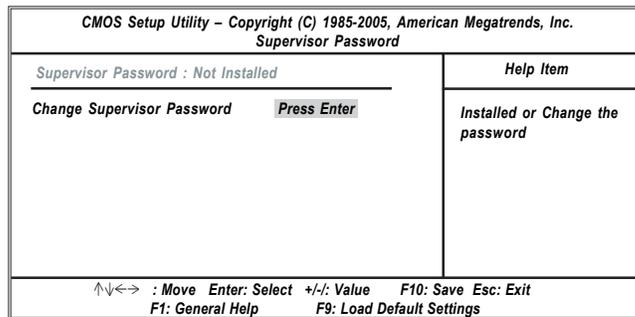
Supervisor Password

This item indicates whether a supervisor password has been set. If the password has been installed , Installed displays. If not, Not Installed dispalys.

Change Supervisor Password

You can select this option and press<Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

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User Password Page

This page helps you set up some parameters for the hardware monitoring function of this motherboard.

```
CMOS Setup Utility – Copyright (C) 1985-2005, American Megatrends, Inc.
                              User Password
─────────────────────────────────────────────┬──────────────────────────
User Password : Not Installed                  │        Help Item
                                               │
                                               │
                                               │
                                               │
                                               │
                                               │
                                               │
                                               │
───────────────────────────────────────────────────────────────────────
     ↑↓←→: Move  Enter: Select  +/-: Value     F10: Save  Esc: Exit
              F1: General Help         F9: Optimized Defaults
```

User Password

This item indicates whether a user password has been set. If the password has been installed , Installed displays. If not, Not Installed dispalys.

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.

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

Chapter 4 Software & Applications

Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard package.

The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

To run the support CD, simply insert the CD into your CD-ROM drive. An Auto Setup screen automatically pops out, and then you can go on the auto-installing or manual installation depending on your operating system.

If your operating system is Windows 2000/XP, it will automatically install all the drivers and utilities for your motherboard.

Installing Support Software

1. Insert the support CD-ROM disc in the CD-ROM drive.
2. When you insert the CD-ROM disc in the system CD-ROM drive, the CD automatically displays an Auto Setup screen.
3. The screen displays three buttons of **Setup**, **Browse CD** and **Exit** on the right side, and three others **Setup**, **Application** and **ReadMe** at the bottom. Please see the following illustration.
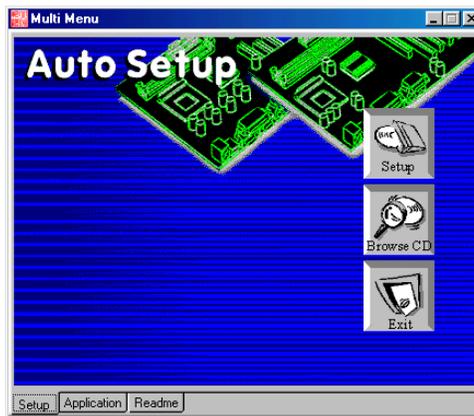
The **Setup** button runs the software auto-installing program as explained in next section.

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

Auto-Installing under Windows 2000/XP

If you are under Windows 2000/XP, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

1   The installation program loads and displays the following screen. Click the **Next** button.

2   Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.
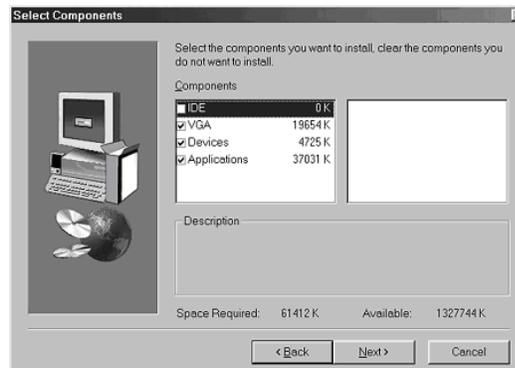
3   The support software will automatically install.

Once any of the installation procedures start, software is automatically installed in sequence. You need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as needed to complete installing whatever software you selected. When the process is finished, all the support software will be installed and start working.

Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:

1   Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
2   A software menu appears. Click the software you want to install.
3   Follow onscreen instructions to install the software program step by step until finished.

Chapter 5 SiS968 SATA RAID Setup Guide

Introduction for SiS968 SATA RAID Function

The 968 S-ATA controller only supports two serial ATA on two independent ports. The Serial ATA RAID is designed to provide a cost-effective, high performance RAID solution that adds performance and/or reliability to PC desktops and/or servers using Serial ATA/300 hard disks.

Serial ATA RAID function supports striping (RAID 0), mirroring (RAID 1), and span (JBOD). Please note that the function supports hard disk drives only and the 968 S-ATA controller don't support Striping + mirroring (Raid 0+1).

With striping, identical drives can read and write data in parallel to increase performance. Mirroring increases read performance through load balancing and elevator sorting while creating a complete backup of your files. Span would increase the logic hard disk space.

Serial ATA RAID striped arrays can double the sustained data transfer rate of Serial ATA/300. Serial ATA RAID fully supports Serial ATA/300 specification of up to 300 MB/sec per drive, depending on individual drive specifications.

Features
- The SiS968 controller only support two Serial ATA (Serial ATA RAID) drivers;
- Support RAID function: RAID 0, RAID 1, JBOD.
- Support bootable disk.
- Windows-based RAID Utility software tool (only support Windows XP and 2000).
- BIOS Utility.

Support Operating Systems

Support Microsoft Windows 2000/XP Professional and Server/XP.

What is RAID?
This section will give you an overview about the RAID system and introduce the basic background and glossary which you need to know before using "SiS RAID Controller Application".

1   **RAID:** (Redundant Array of Independent Disk Drives) use jointly several hard drives to increase data transfer rates and data security. It depends on the number of drives present and RAID function you select to fulfill the security or performance purposes or both.

2   **RAID 0:** Also known as "Stripping". All of the data are distributed evenly to all of the existing drives. You gain benefits on performance because the data transfer rate is multiplied by the number of drives. However, RAID 0 has high risks of data security. All of the stored data will be lost if even any one drive in the RAID set crashes.

3   **RAID 1:** Also known as "Mirroring". Two hard drives are required. The goal of RAID 0 is to ensure data security. Data is written to two or more drives synchronously. That is, 100% duplication of data from one drive to another.

4 **JBOD:** (Just a Bunch of Drives). Also known as "Spanning". Two or more hard drives are required. Several hard disk types configured as a single hard disk. The hard drives are simply hooked up in series. This expands the capacity of your drive and results in a useable total capacity. However, JBOD will not increase any performance or data security.

Installing Software Drivers

SiS provides RAID driver for SiS968 SATA with RAID function.

1 For RAID function, SiS968 support RAID 0, RAID 1, and JBOD by software RAID driver only.
2 Support the function of installing windows to RAID array.

New Windows 2000/XP Installation

1 Start the installation:
   Boot from the CD-ROM. Press F6 when the message "Press F6 key if you need to install third party SCSI or RAID driver" appears.
2 When the Windows 2000/XP Setup window is generated, press S key to specify an Additional Device(s).
3 Insert the driver diskette into drive A: and press Enter.
4 Choose one of the following items:
   "WinXP SiS Raid/IDE Controller",
   "Win2000 SiS Raid/IDE Controller",
   that appears on screen, and then press the Enter key.
5 Press Enter to continue with installation or if you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, Press Enter to continue with installation.
6 From the Windows 2000/XP Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows 2000/XP installation.
7 Please install the driver package again (ex. SiS RAID driver v1.00) while the operation system has been setup.

Note: If you would like to install windows to any RAID set, you should create RAID from BIOS utility or SiS 968 RAID Utility first and then follow the steps above.

Existing Windows 2000/XP Installation

1 Install the driver by executing SiS driver setup utility.
2 The drivers will be automatically installed.

Confirming Windows 2000/XP Driver Installation

1 From Windows 2000/XP, open the Control Panel from "My Computer" followed by the System icon.
2 Choose the "Hardware" tab, then click the "Device Manager" tab.
3 Click the "+" in front of "SCSI and RAID Controllers" hardware type. The driver "WinXP SiS180 Raid Controller" (for RAID) or "Win2000/XP SiS180 IDE Controller" (for SATA) should appear.

BIOS Utility Operation

BIOS Utility supports windows 2000/XP.

Starting BIOS Utility

1   Boot your system. If this is the first time you have booted with the SiS968
     and the drives installed, the BIOS will display the following:

> Silicon Integrated Systems Corp. RAID BIOS Setting Utility 1.00.0.XX
> (c) 2006-2008 Silicon Integrated Systems Corp. All Rights Reserved.
>
> Press <Ctrl.<S> to run BIOS Setting Utility

2   Press <Ctrl-S> keys to display the SiS968 Utility Main Menu.
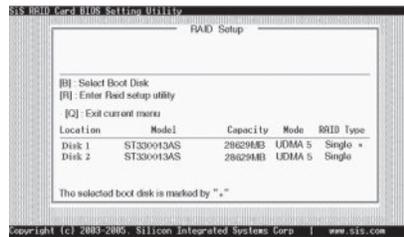
3   You can press <B> key to select the boot disk on the 968 controller. The
     yellow highlight will show on the disk and you can switch it to select the disk
     you wanted. Press "Enter" key to select it and the selected boot device will be
     marked by "*". The default boot device will be set as **Disk 1.**

4   Press <R> to display the RAID setup menu below. This is the fastest and
     easiest method to creating your first array.
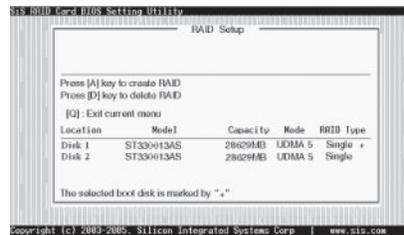
Create RAID

- SIS968 controller support RAID 0, RAID 1 and JBOD.

Creating a RAID 0 (Stripe) Array for Performance

- SiS 180 enables users to create striped arrays with 1, 2, 3, or 4 drives.
- SiS968 only supports 2 SATA drivers to create a stripe array.

To create an array for best performance, follow these steps:

1   Press <A> to start creating a RAID array.
2   Press <2> and <Enter> to select RAID 0.
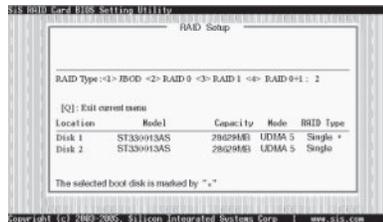
3   You will have two selections to create a RAID 0 array. **The default value is <1>**. If you select <**1**>**Auto Create**, you can create a RAID 0 array faster and easier. The Blocksize will be selected by its default value "64K". The result after creating will be show on **step 8**. Besides, you also can select <**2**>**Manual Create**, see following steps.
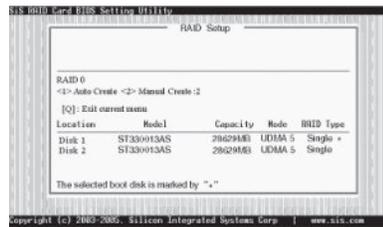
4   Press <1>-<5> keys and <Enter> to select Block Size. (Default:64K)
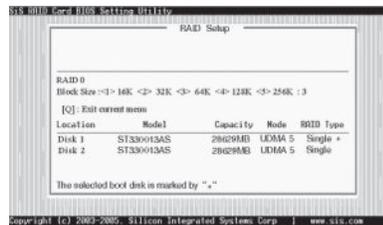
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5   Use <- > < ⁻ > to select disk, and press <Enter> to select disk, <Q> to exit.
     When you press <Enter> on the disk you wanted, the RAID Type will be
     changed from Single to RAID 0. An the disk you select first will be the
     SOURCE disk.
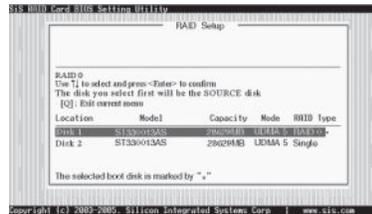
6   Next, you will see a message "Split the SOURCE(DISK x) data to RAID
     disks?". Press <N> and <Enter> to create RAID 0 array only or press <Y>
     and <Enter> to split the data from source disk to other disks.
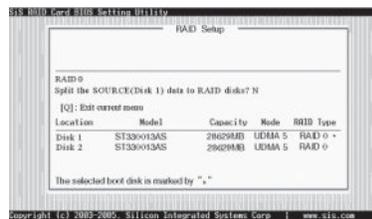
7   Starting splitting action, the following frame will be shown.
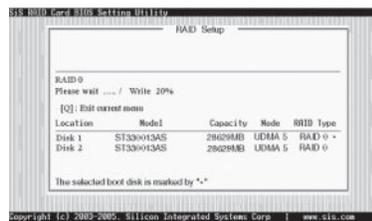
8   After all steps finished, press ,<Q> until escape the setup menu and RAID 0
     array will be show on the top of the main frame.

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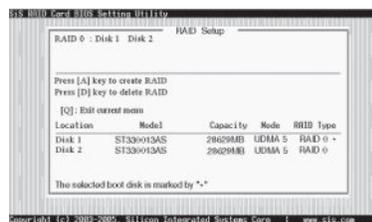
9   Press <Q> again to exit this BIOS utility and the red message frame will show. Press <Y> and <Enter> to save changes.

10   Once the array has been created, you will need to FDISK and format the array as if it were a new single hard drive.

Creating a RAID 1 (Mirror) Array

To create a Mirror array, follow these steps:

1   Press <A> to start creating a RAID array.

2   Press <3> and <Enter> to select Mirror.
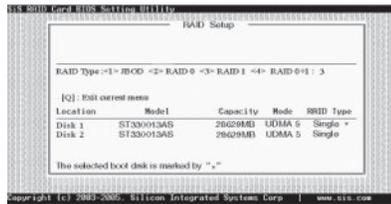
3   You will have two selections to create a RAID 1 array. **The default value is <1>**. If you select <**1**>**Auto Create**, you can create a RAID 1 array faster and easier. The result after creating will be show on **step 7**. Besides, you also can select <**2**>**Manual Create**, see following steps.
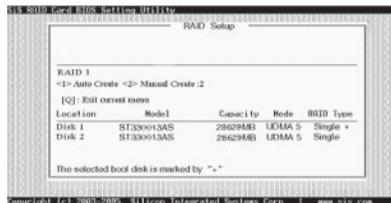
4   Use <- > < ¯ > to select disk, and press <Enter> to select disk, <Q> to exit. When you press <Enter> on the disk you wanted, the RAID Type will be changed from **Single** to **RAID 1**. The same as RAID 0, the disk you select first will be the SOURCE disk.
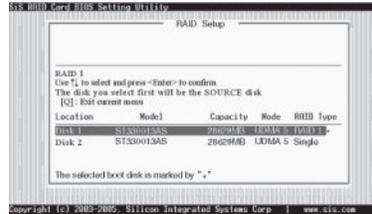

5   Next, you will see a message "Duplicate the SOURCE (DISK x) data to RAID disks?". Press <N> and <Enter> to create RAID 1 array only or press <Y> and <Enter> to duplicate the data from source disk to mirror disk.
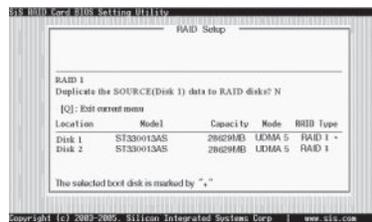
6   Starting duplicating action, the following frame will be showing.
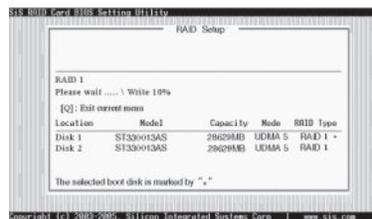
7   After all steps finished, press <Q> until escape the setup menu and RAID 1 array will be show on the top of the main frame.


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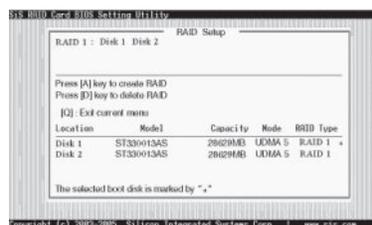
8   Press <Q> again to exit this BIOS utility and the red message frame will show as the same as the creation of the RAID 0 array. Press <Y> and <Enter> to save changes.

9   Once the array has been created, you will need to FDISK and format the array as if it were a new single hard drive.

Creating a JBOD Array

Note: 1   SIS 180 enables users to create JBOD arrays with 2,3, or 4 drives.

2   SIS968 only supports 2 SATA drivers to create a JBOD arrays.

To create an JBOD array, follow these steps:

1   Press <A> to start creating a RAID array.

2   Press <1> and <Enter> to select JBOD.

3   You will have two selections to create a JBOD array. **The default value is <1>**. If you select **<1>Auto Create**, you can create a JBOD array faster and easier. The result after creating will be show on **step 5**. Besides, you also can select **<2>Manual Create**, see following steps.
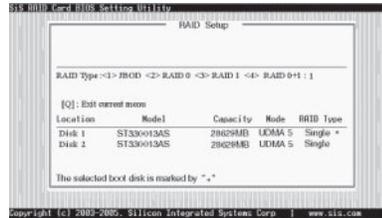
4   Use <-> < ¯ > to select disk, and press <Enter> to select disk, <Q> to exit. When you press <Enter> on the disk you wanted, the RAID Type will be changed from **Single** to **JBOD**.
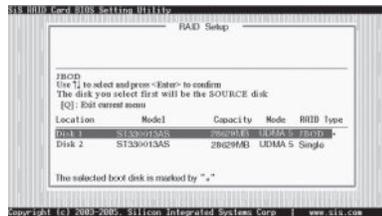
5   After all steps finished, press <Q> until escape the setup menu and JBOD array will be show on the top of the main frame.

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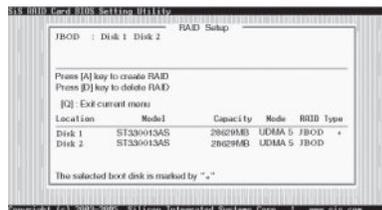
6   Press <Q> again to exit this BIOS utility and the red message frame will show as the same age as the creation of the RAID 0 array. Press <Y> and <Enter> to save changes.

7   Once the array has been created, you will need to FDISK and format the array as if it were a new single hard drive.