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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 Quad*/Intel®Core™ 2 Duo/Pentium® Dual-Core/Celeron® Dual-Core/Celeron® 400 series processors with Front-Side Bus (FSB) speeds up to **1333/1066 MHz.**

It integrates **Intel®G41** Northbridge and **ICH7** Southbridge that supports the Serial ATA interface for high-performance and mainstream desktop PCs. The memory controller supports DDR3 memory DIMM frequencies of 1066/800. It supports two DDR3 sockets with up to maximum memory of 4 GB. The built-in **USB 2.0** providing higher bandwidth, implementing **USB 2.0 EHCI.** It supports **High Definition Audio Codec** and provides **Ultra DMA 100**/66/33 function. It has one **PCI Expressx16**, one **PCI Expressx1** and one 32-bit **PCI** slot. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one VGA port, one LAN port, four back-panel USB 2.0 ports and Audio jacks for microphone, line-in and line-out and onboard two USB headers providing extra four ports by connecting the Extended USB Module to the motherboard.

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

- Intel Core 2 Quad*/Intel®Core™ 2 Duo/Pentium®Dual-Core/Celeron®Dual-Core/Celeron® 400 series processors
- Supports **1333/1066 MHz** Front-Side Bus

This board support 65W TDP Core 2 Quad Processors.

Chipset

The Intel® G41 Northbridge (NB) and Intel® ICH7 Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

- High Performance Host Interface: Supports **Intel Core 2 Quad /Intel® Core™ 2 Duo/Pentium® Dual-Core/Celeron® Dual-Core/Celeron® 400 series** processors family with FSB1333/1066 MHz
- System Memory Controller Support: DDR3 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 at 33MHz
- Integrade Serial ATA Host Controller with Data transfer rates up to 3.0 Gb/s
- Intgrated IDE Controller: Ultra DMA-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 DDR3 1333/1066 SDRAM* with Dual-channel architecture.
- Maximum installed memory is 4 GB

Expansion Slots

- One 32-bit PCI slot
- One **PCI Express x16** slot
- One **PCI Express x1** 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 **100**/66/33 MB/sec

Serial ATA

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

* Due to the chipset spec, this motherboard runs at DDR3 1066/800 MHz memory speed. Please refer to the memory QVL in page 11~12.

Audio

- 5.1 Channel High Definition Audio Codec
- Exceeds Microsoft Windows Logo Program (WLP) Requirements
- ADCs support 44.1K/48K/96K/192KHz sample rate
- Power Support: Digital: 3.3V; Analog: 5.0V

Onboard LAN (optional)

- Supports PCI Express™ 1.1
- Integrated 10/100/1000 transceiver
- Wake-On-LAN (WOL) and remote wake-up support

- Supports PCI Express™ 1.1
- Integrated 10/100 transceiver
- Wake-On-LAN (WOL) and remote wake-up support

Onboard I/O Ports

- Two PS/2 ports for mouse and keyboard
- One VGA port
- One LAN port
- Four USB 2.0 ports
- Audio jacks for microphone, line-in and 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
- CPU and memory timing

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

Dimensions

- Micro ATX form factor of 225 x 170 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
- ❑ Two Serial ATA cables

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- ❑ The Extended USB module
- ❑ The IDE drive ribbon 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
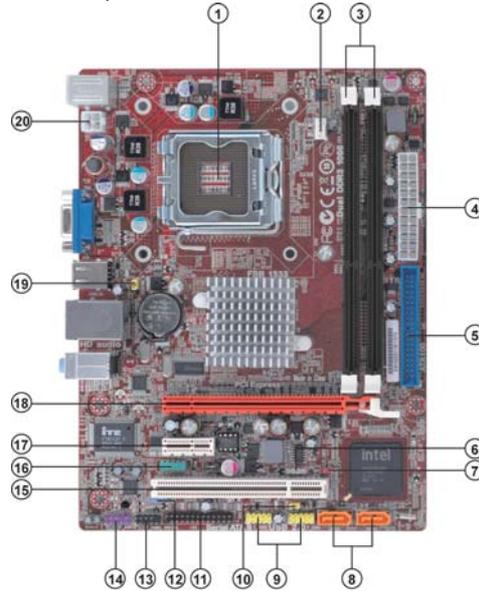
LABEL	COMPONENTS
1. CPU Socket	LGA775 socket for Intel Core 2 Quad/Intel® Core™ 2 Duo/ Pentium® Dual-Core/Celeron® Dual-Core/Celeron® 400 series processors
2. CPU_FAN	CPU cooling fan connector
3. DDR3_1~2	240-pin DDR3 SDRAM slots
4. ATX_POWER	Standard 24-pin ATX power connector
5. IDE	Primary IDE channel
6. SPK	Speaker header
7. CLR_CMOS	Clear CMOS jumper
8. SATA1~2	Serial ATA connectors
9. F_USB1~2	Front panel USB headers
10. USBPWR_F	Front panel USB power select jumper
11. LPT	Onboard parallel port header
12. SPDIFO	SPDIF out header
13. F_PANEL	Front panel switch/LED header
14. F_AUDIO	Front panel audio header
15. PCI	32-bit add-on card slot
16. COM	Onboard serial port header
17. PCIE	PCI Express x 1 slot
18. PCIEX16	PCI Express x16 graphics card slot
19. USBPWR_R	Rear Panel USB/PS2 Power Select jumper
20. ATX12V	4-pin +12V power connector

I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.
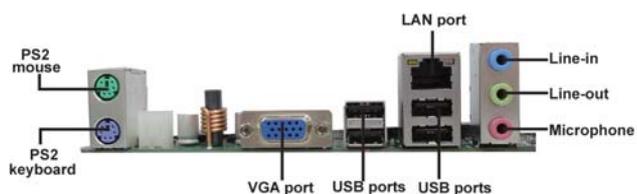
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the low er PS/2 port to connect a PS/2 keyboard.
VGA Port	Use the VGA port to connect VGA devices.
LAN Port	Connect an RJ-45 jack to the LAN port to connect your computer to the Netw ork.
USB Ports	Use the USB ports 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 Quad/Intel® Core™ 2 Duo/Pentium® Dual-Core/Celeron® Dual-Core/Celeron® 400** series 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:
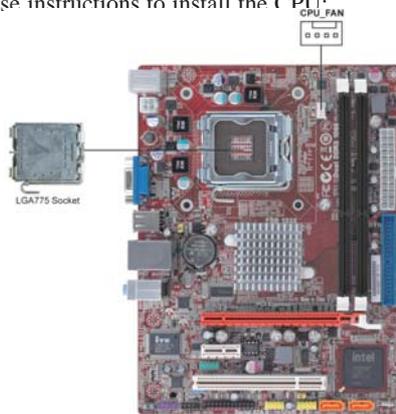
A. Read and follow the instructions shown on the sticker on the CPU cap.

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 for unbuffered **DDR3 1333/1066** memory modules, and maximum 4 GB installed memory.

DDR3_1 DDR3_2
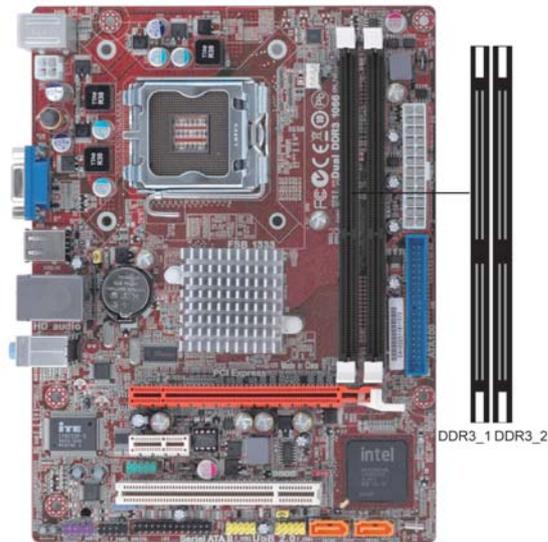
Memory Module Installation Procedure

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.

Table A: DDR3 (memory module) QVL (Qualified Vendor List)

The following DDR3 1333/1066memory modules have been tested and qualified for use with this motherboard.

Type	Size	Vendor	Module Name
DDR3 1066	512 MB	ELPIDA	PC3-8500U-7-00-AP
	1 GB	Hynix	HYMT112U64ZNF8-G8 AA
			HMT112U6AFP8C-G7N0 AA
		Kingston	KVR1066D3N7/1G
		Micron	MT8HTF12864AY-667E1
			MT8JTF12864AZ-1G1F1
		Ramaxel	RMR1810NA48E7F-1066-LF
		Samsung	Gloden Bar M378B2873DZ1-CF8 0818
	2 GB	Hynix	HYMT125U64ZNF8-G8 AA
			HMT125U6AFP8C-G7N0 AA
		Micron	MT16JTF25664AZ-1G1F1
			MT16JTF25664AY-1G1D1
		Samsung	M378B5673DZ1-CF8 0842

Type	Size	Vendor	Module Name
DDR3 1333	1 GB	A-data	AD3U1333B1G9-B
		Hynix	HMT112U6AFP8C-H9N0 AA
		KingMax	FLFD45F-B8KG9 NAES
		Kingston	KVR1333D3N9/1G
		Micron	MT8JTF12864AY-1G4D1
		Micron	MT8JTF12864AZ-1G4F1
		PSC	AL7F8G73D-DG1
		Ramaxel	RMR1810KD48E7F-1333
		Samsung	M378B2873DZ1-CH9
		Samsung	M378B2873EH1-CH9
		Silicon Power	SP001GBLTU133S01
	2 GB	A-data	AD3U1333B2G9-B
		Apacer	78.A1GC6.9L1
		Elixir	M2F2G64CB8HA4N-CG 0903.TW
		Hynix	HMT125U6AFP8C-H9N0 AA
		KingMax	FLFE85F-B8KG9 NEES
		Kingston	KVR1333D3N9/2G
		Micron	MT16JTF25664AY-1G4D1
		PSC	AL8F8G73D-DG1
		Samsung	M378B5673EH1-CH9
		Silicon Power	SP002GBLTU133S01

Jumper Settings

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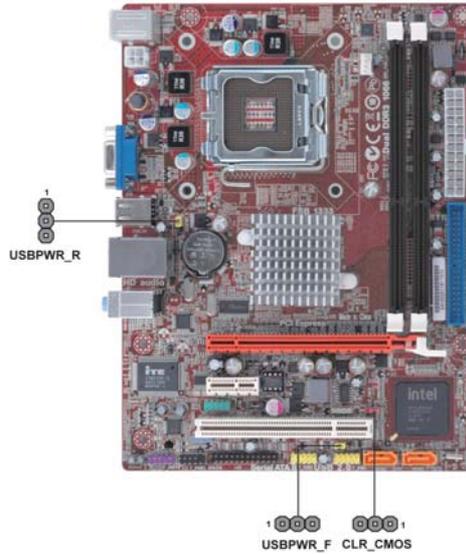
CLR_CMOS: Clear CMOS Jumper

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 1-2
Clear CMOS	Short Pins 2-3

Note: To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimal Defaults" and then "Save Changes and Exit".

USBPWR_F: FRONT PANEL USB POWER SELECT Jumper

1 ⊙⊙⊙

USBPWR_F

Function	Jumper Setting
VCC	Short Pins 1-2
5VSB	Short Pins 2-3

USBPWR_R: REAR USB PS/2 POWER SELECT Jumper

Use this jumper to set the Rear USB PS/2 Power function.

1

USBPWR_R

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. To wake up the computer by USB/PS2 KB/Mouse in S3 status, users have to place the USBPWR_F & USBPWR_R cap onto 2-3 pin instead of 1-2 as default, and then press into BIOS "Power Management Setup"page to choose the functions (USB/PS2KB/MS) you want to enable.

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.
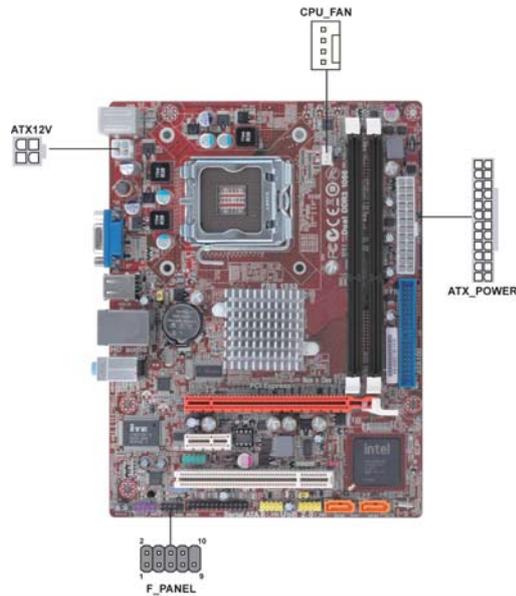
Connect the power connector from the power supply to the **ATX_POWER** connector on the motherboard. The **ATX12V** is a +12V connector for CPU Vcore power.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **CPU_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:
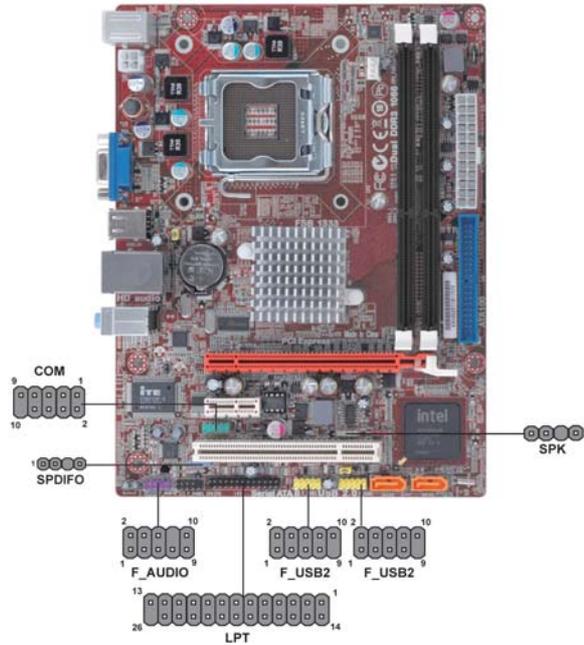
SPK: Speaker Header

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

SPDIFO: SPDIF Out Header

S/PDIF (Sony/Plilips 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	SPDIFOUT	2	5VA
3	KEY	4	GDN

COM: Onboard Serial Port Header

Connect a serial port extension bracket to this header to add a second serial port to your system.

Pin	Signal	Pin	Signal
1	DCDB	2	SINB
3	SOUTB	4	DTRB
5	GND	6	DSRB
7	RTSB	8	CTSB
9	RI	10	KEY

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

F_USB1~2: Front Panel USB Header

The motherboard has four 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 header F_USB to connect the front-mounted ports to the motherboard.

Pin	Signal	Pin	Signal
1	USBPWR0	2	USBPWR1
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_USB header on the motherboard.
2. Plug the bracket cable onto the F_USB 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.

LPT: Onboard Parallel Port Header

This header allows the user to connect to the printer, scanner or devices.

Pin	Signal	Pin	Signal
1	STROBE	2	PD0
3	PD1	4	PD2
5	PD3	6	PD4
7	PD5	8	PD6
9	PD7	10	ACK
11	BUSK	12	PE
13	SLCT	14	ALF
15	ERROR	16	INIT
17	SLCTIN	18	Ground
19	Ground	20	Ground
21	Ground	22	Ground
23	Ground	24	Ground
25	Ground	26	Key

Install Other Devices

Install and connect any other devices in the system following the steps below.
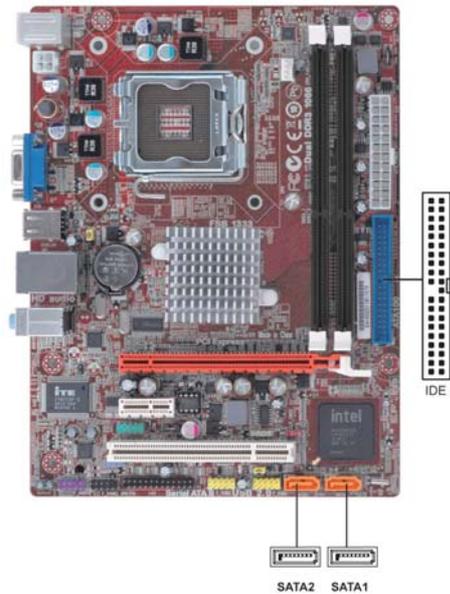
IDE Devices

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

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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.

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.

Expansion Slots

This motherboard has one PCI Express x16, one PCI Express x1 and one 32-bit PCI slots.
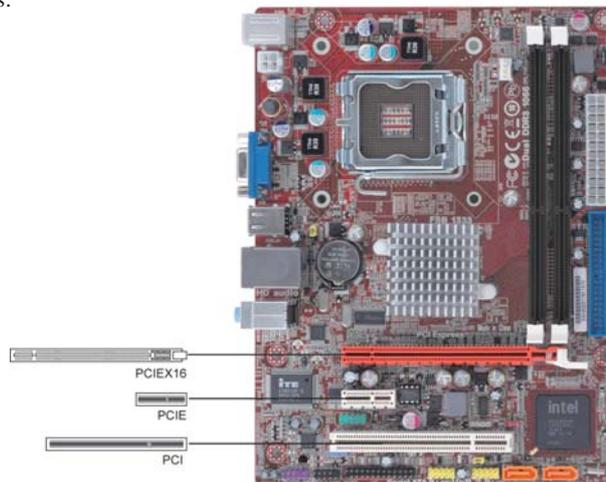
Follow the steps below to install an PCI Express/CNR/PCI expansion card.

1   Locate the PCI Express, CNR 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

You can install an external PCI Express graphics card that is fully compliant to the
PCI Express Base Specification revsion 1.0.

PCI Express Slot

You can install an external PCI Express graphics card that is fully compliant to the
PCI Express Base Specification revsion 1.1.

PCI Slot

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

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.

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 optimal 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                          Wed 11/24/2009             │    Help Item     │
  │ Time                          16 : 02  : 00              │                  │
  │                                                          │ User [Enter], [TAB] │
  │ ► Primary IDE Master          Not Detected              │ or [SHIFT-TAB] to │
  │ ► Primary IDE Slave           Not Detected              │ select a field.  │
  │ ► SATA1                       Hard Disk                 │                  │
  │ ► SATA2                       Not Detected              │ Use [+] or [-] to │
  │                                                          │ configure system Date. │
  │ IDE BusMaster                 Enabled                   │                  │
  └─────────────────────────────────────────────────────────┴──────────────────┘
        ↑↓←→ : Move  Enter: Select  +/-/: Value   F10: Save   Esc: Exit
                F1: General Help            F9: Load Default Settings
```

Date & Time

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

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*.

SATA1/2

These items display the status of auto detection of sata devices when "Onboard SATA-IDE" sets to "IDE".

22

IDE BusMaster

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

▶ **IDE Devices**

Your computer has one IDE channel which can be installed with one or two devices (Master and Slave). In addition, this motherboard supports two SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2005, American Megatrends, Inc.
                        Primary IDE Master

  Primary IDE Master                                    Help Item

  Device          : ATAPI CDROM              Select the type
  Vendor          : DVD-ROM DDU1632          of device connected
  LBA Mode        : Supported                to the system.
  PIO Mode        : 4
  Async DMA       :  MultiWord DMA-2
  Ultra DMA       : Ultra DMA-2

  Type            Auto
  PIO Mode        Auto
  DMA Mode        Auto

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

Type (Auto)

Use this item to configure the type of the IDE device that you specify. If the feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

PIO Mode

Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

DMA Mode

DMA capability allows user to improve the transfer-speed and data-integrity for compatible IDE devices.

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

IDE BusMaster (Enabled)

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

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

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/TM2
Limit CPUID MaxVal              Disabled      For the processor its
Enhanced Halt (C1E)             Enabled       CPUID belows 0F14h.
Intel XD Bit                    Disabled      TM2 only can be enable
Intel EIST                      Enabled       under below settings.
Quick Power on Self Test        Enabled       1.Freq.>=3.6GHz FSB800
Boot Up Numlock Status          On            2.Freq.>=2.8GHz FSB533
APIC Mode                       Enabled
1st Boot Device                 Hard Drive
2nd Boot Device                 CD/DVD
3rd Boot Device                 Removable Dev.
▶Hard Disk Drives               Press Enter
▶CD/DVD Drivers                 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

This item displays CPU Monitor status.

Limit CPUID MaxVal (Disabled)

Use this item to enable or disable the Max CPU ID value limit. When supports Prescott and LGA775 CPUs, enables this to prevent the system from "rebooting" when trying to install Windows NT 4.0.

Enhanced Halt (C1E)

This item enables or disables enhanced halt (C1E).

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).

Quick Power On Self Test

Enable this item to shorten the power on self testing (POST) and have your system start up faster. You might like to enable this item after you confident that your system hardware is operating smoothly.

Boot Up NumLock Status

This item determines if the NumLock key is active or inactive at system start-up time.

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APIC Mode

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

1st/2nd/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.

▶ **Hard Disk 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.
Hard Disk Drives

Hard Disk Drives		Help Item
1st Drive	ST3160023AS	Specifies the boot sequence from the available devices.

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

▶ **CD/DVD Drivers (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 Drivers Drives

CD/DVD Drivers		Help Item
1st Drive	TSSTcorpDVD-ROM TS-	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 the Advanced Setup page.

Boot Other Device

When it is set to "Yes", 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.

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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

 DRAM Frequency                    Auto            Help Item
 Configure DRAM Timing by SPD      Enabled
 Share Memory Size                 64MB             Options
 DVMT Memory                       256MB
 Memory Remap Feature              Enabled         Auto
 HPET                              Enabled         800 MHz
                                                   1066 MHz



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

DRAM Frequency (Auto)

This item enables users to adjust the DRAM frequency. The default setting is auto and we recommend users leave the setting unchanged. Modify it at will may cause the system to be unstable.

Configure DRAM Timing by SPD (Enabled)

When this item is set to enable, the DDR timing is configured using SPD. SPD (Serial Presence Detect) is located on the memory modules, BIOS reads information coded in SPD during system boot up.

Share Memory Size (64MB)

This item lets you allocate a portion of the main memory for the onboard VGA display application.

DVMT Memory (256MB)

When set to Fixed Mode, the graphics driver will reserve a fixed portion of the system memory as graphics memory, according to system and graphics requirements.

Memory Remap Feature (Enabled)

This item allows you to remap the overlapped PCI memory above the total physical memory if you have a 64 bit OS and 8 GB of RAM.

HPET (Enabled)

This item enables or disables HPET (High Precision Event Timer) support.

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

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          Enabled            Help Item
  OnBoard  SATA  Controller         Enhanced
  Onboard  AUDIO  Function          Enabled    DISABLED: disables the
  Onboard  LAN  Function            Enabled    integrated  IDE
  Onboard  LAN  Boot  ROM           Disabled   Controller.
  Serial  Port1  Address            3F8/IRQ4   ENABLED: enables both
  Parallel  Port  Address           378        Controllers.
     Parallel Port Mode             ECP
        ECP Mode DMA Channel        DMA3
     Parallel  Port  IRQ            IRQ7
  USB  Functions                    Enabled
  Legacy  USB  Support              Enabled


      ↑↓←→   : 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 interface.

Onboard SATA Controller

This item allows you to enable or disable the onboard SATA controller.

Onboard AUDIO Function

Use this item to enable or disable the onboard audio device.

Onboard LAN Function

Use this item to enable or disable the onboard LAN function.

Onboard LAN Boot ROM

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

Serial Port1 Address

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

Parallel Port Address

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

Parallel Port Mode

Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or BPP (Bi-Directional Parallel Port).

ECP Mode DMA Channel

Use this item to assign the DMA Channel under ECP Mode function.

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Parallel Port IRQ

Use this item to assign IRQ to the parallel port.

USB Functions

Use this item to enable or disable the USB function.

Legacy USB Support

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

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

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                    Help Item
 PWRON  After PWR-Fail          Power Off
 Resume By RING                 Disabled
 Resume By PCI/PCI-E/Lan PME    Disabled        Select the ACPI
 Resume By PS2 KB (S3)          Disabled        state used for
 Resume By PS2 MS (S3)          Disabled        System Suspend.
 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.

PWRON After PWR-Fail

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

Resume By RING

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

Resume By PCI/PCI-E/Lan PME

These items specify whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

Resume By PS2 KB (S3)

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

Resume By PS2 MS (S3)

This item enable or disable you to allow mouse activity to awaken 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.

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

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

                                               Select  which graphics
                                               controller  to use as
                                               the  primary  boot
                                               device.




          ↑↓←→     : 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.

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

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                          │
├───────────────────────────────────────────────┬─────────────────────┤
│       -=- System Hardware Monitor-=-           │      Help Item       │
│ ▶ Smart Fan Function          Press Enter      │                      │
│   CPU Fan Speed              : 1134 RPM         │                      │
│   CPU Vcore                  : 1.216 V          │                      │
│   VDIMM                      : 1.472 V          │                      │
│   Case Open Warning           Disabled         │                      │
│   Chassis Opened              No               │                      │
│            -=- PECI Mode-=-                     │                      │
│   Offset to TCC Activation Temp.: -56          │                      │
│                                                │                      │
│                                                │                      │
├───────────────────────────────────────────────┴─────────────────────┤
│   ↑↓←→ : Move  Enter: Select  +/-/: Value  F10: Save   Esc: Exit      │
│       F1: General Help              F9: Load Default Settings          │
└─────────────────────────────────────────────────────────────────────┘
```

▶ Smart Fan Function

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                         │
├───────────────────────────────────────────────┬─────────────────────┤
│                                                │      Help Item       │
│   Smart Fan Function          Enabled          │    ┌─────────────┐   │
│   SMART Fan Mode              Normal           │    │   Options   │   │
│   SMART Fan start PWM value   28               │    └─────────────┘   │
│   CPU DeltaT                  +3               │    Disabled          │
│   SMART Fan start Offset (-)  32               │    Enabled           │
│   Fan1 Slope PWM  value/1 Unite  5             │                      │
│   Fan1 Full Speed Offset(-)   7                │                      │
│                                                │                      │
│                                                │                      │
│                                                │                      │
├───────────────────────────────────────────────┴─────────────────────┤
│   ↑↓ → ← : Move   Enter : Select   +/-/: Value   F10: Save   ESC: Exit│
│          F1: General Help           F9: Load Default Settings          │
└─────────────────────────────────────────────────────────────────────┘
```

SMART Fan Control (Enabled)

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

SMART Fan Mode (Normal)

This item allows you to select the fan mode (Normal, Quiet, Silent, or Manual) for a better operation environment. If you choose Normal mode, the fan speed will be auto adjusted depending on the CPU temperature. If you choose Quite mode, the fan speed will be auto minimized for quiet environment. If you choose Silent mode, the fan speed will be auto restricted to make system more quietly. If you choose Manual mode, the fan speed will be adjust depending on users' parameters.

Press <Esc> to return to the PC Health Status page.

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

                                                    Help Item

 Smart Fan Function              Enabled
 SMART Fan Mode                  Normal              Options
 SMART Fan start PWM value       28            Normal: auto adjusts
 CPU DeltaT                      +3            depending on the CPU
 SMART Fan start Offset (-)      32            temperature.
 Fan1 Slope PWM  value/1 Unite   5             Quiet: auto minimizes fan
 Fan1 Full Speed Offset(-)       7             speed for quiet
                                               environment operation.

                                               Silent: auto restricts fan
                                               speed to make system
                                               more quietly.

                                               Manual: the fan adjust
                                               depending on user's
                                               parameter.

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

Press <Esc> to return to the Smart Fan Function page.

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

		Help Item
Smart Fan Function	Enabled	**Options**
SMART Fan Mode	Quiet	Normal: auto adjusts depending on the CPU temperature.
SMART Fan start PWM value	28	
CPU DeltaT	+3	
SMART Fan start Offset (-)	32	Quiet: auto minimizes fan speed for quiet environment operation.
Fan1 Slope PWM value/1 Unite	5	
Fan1 Full Speed Offset(-)	7	Silent: auto restricts fan speed to make system more quietly.
		Manual: the fan adjust depending on user's parameter.

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

Press <Esc> to return to the Smart Fan Function page.

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

		Help Item
Smart Fan Function	Enabled	**Options**
SMART Fan Mode	Silent	Normal: auto adjusts depending on the CPU temperature.
SMART Fan start PWM value	28	
CPU DeltaT	+3	
SMART Fan start Offset (-)	32	Quiet: auto minimizes fan speed for quiet environment operation.
Fan1 Slope PWM value/1 Unite	5	
Fan1 Full Speed Offset(-)	7	Silent: auto restricts fan speed to make system more quietly.
		Manual: the fan adjust depending on user's parameter.

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

Press <Esc> to return to the Smart Fan Function page.

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```
        CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                              Smart Fan Function
  ┌──────────────────────────────────────────────┬──────────────────────────┐
  │                                                │         Help Item        │
  │  Smart Fan Function             Enabled        │      ┌─────────────┐     │
  │  SMART Fan Mode                 Manual         │      │   Options   │     │
  │  SMART Fan start PWM value      28             │  Normal: auto adjusts    │
  │  CPU DeltaT                     +3             │  depending on the CPU    │
  │  SMART Fan start Offset (-)     32             │  temperature.            │
  │  Fan1 Slope PWM  value/1 Unite  5              │  Quiet: auto minimizes fan│
  │  Fan1 Full Speed Offset(-)      7              │  speed for quiet         │
  │                                                │  environment operation.  │
  │                                                │                          │
  │                                                │  Silent: auto restricts fan│
  │                                                │  speed to make system    │
  │                                                │  more quietly.           │
  │                                                │                          │
  │                                                │  Manual: the fan adjust  │
  │                                                │  depending on user's     │
  │                                                │  parameter.              │
  ├────────────────────────────────────────────────────────────────────────┤
  │  ↑↓→←: Move    Enter : Select    +/-/: Value   F10: Save   ESC: Exit     │
  │            F1: General Help          F9: Load Default Settings            │
  └──────────────────────────────────────────────────────────────────────────┘
```

Press <Esc> to return to the Smart Fan Function page.

Supports the latest PECI host technology. While using Core™ 2 Quad or Core™ 2 Duo CPU which supports PECI, the original images of the BIOS item "PC Health Status" and "Smart FAN Function" will be replaced by PECI mode and negative number. (The max data from PECI is zero.)

```
        CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                                PC Health Status
  ┌──────────────────────────────────────────────┬──────────────────────────┐
  │                                                │         Help Item        │
  │       -=- System Hardware Monitor-=-           │                          │
  │   Smart Fan Function          Press Enter      │                          │
  │  CPU Fan Speed              : 2509 RPM         │                          │
  │  CPU Vcore                  : 1.088 V          │                          │
  │  VDIMM                      : 1.824 V          │                          │
  │                                                │                          │
  │       -=- PECI Mode -=-                        │                          │
  │  Offset to TCC Activation Temp. :  -60         │                          │
  │                                                │                          │
  ├────────────────────────────────────────────────────────────────────────┤
  │  ↑↓→←: Move    Enter : Select    +/-/: Value   F10: Save   ESC: Exit     │
  │            F1: General Help          F9: Load Default Settings            │
  └──────────────────────────────────────────────────────────────────────────┘
```

```
        CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
                              Smart Fan Function
  ┌──────────────────────────────────────────────┬──────────────────────────┐
  │                                                │         Help Item        │
  │  SMART Fan Control              Disabled       │      ┌─────────────┐     │
  │                                                │      │   Options   │     │
  │                                                │                          │
  │                                                │   Disabled               │
  │                                                │   Enabled                │
  ├────────────────────────────────────────────────────────────────────────┤
  │  ↑↓→←: Move    Enter : Select    +/-/: Value   F10: Save   ESC: Exit     │
  │            F1: General Help          F9: Load Default Settings            │
  └──────────────────────────────────────────────────────────────────────────┘
```

Press <Esc> to return to the PC Health Status page.

Shutdown Temperature

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

System Component Characteristics

These items display the monitoring of the overall inboard hardware health events, such as System & CPU temperature, CPU & DIMM voltage, CPU & system fan speed,...etc.

- CPU Temperature
- CPU Fan Speed
- CPU Vcore
- VDIMM
- VBAT

Case Open Warning (Disabled)

This item enables or disables the warning if the case is opened up, and the item below indicates the current status of the case.

Chassis Opened (No)

This item indicates whether the case has been opened.

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 Actual Value :  7
 CPU  Frequency          :          333MHz            Options
 Auto Detect  DIMM/PCI CIK           Enabled
 Spread Spectrum                     Enabled        Disabled
                                                    Enabled



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

Manufacturer

This item indicates the brand of the CPU installed in your system.

Ratio Actual Value

This item shows the actual ratio of the CPU installed in your system.

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CPU Frequency

This item indicates the current CPU frequency. Users can not make any change to this item. Please noted that the frequency will be varied with different CPU.

CPU Frequency Setting (333MHz)

This item is used to set the CPU Frequency.

Auto Detect DIMM/PCI Clk (Enabled)

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

Spread Spectrum (Enabled)

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

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

Load Default Settings

This option opens a dialog box that lets you install stability-oriented defaults for all appropriate items in the Setup Utility. Select <OK> and then press <Enter> to install the defaults. Select <Cancel> and then press <Enter> to not install the defaults.

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.

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

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     │
├──────────────────────────────────────────────────────┤                  │
│                                                        │                  │
│ Change User Password       Press Enter                 │                  │
│                                                        │                  │
│                                                        │                  │
│                                                        │                  │
│                                                        │                  │
│                                                        │                  │
├────────────────────────────────────────────────────┴──────────────────┤
│   ↑↓←→: Move   Enter: Select  +/-/: Value   F10: Save   Esc: Exit        │
│        F1: General Help              F9: Load Default Settings            │
└──────────────────────────────────────────────────────────────────────────┘
```

User Password (Not Installed)

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

Change User Password (Press Enter)

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

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

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 [OK] to save and exit, or press [Cancel] 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 [OK] to discard changes and exit, or press [Cancel] 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 [OK] to discard any changes you have made.

Chapter 4 Software & Applications

Introduction

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

The support DVD-ROM/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 disk, simply insert the disk into your DVD-ROM/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 XP/Vista/7, it will automatically install all the drivers and utilities for your motherboard.

Installing Support Software

1. Insert the support DVD-ROM/CD-ROM disc in the DVD-ROM/CD-ROM drive.
2. When you insert the DVD-ROM/CD-ROM disc in the system DVD-ROM/CD-ROM drive, the disk 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 **Drivers**, **Utilities** and **Information** at the top. 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 DVD-ROM/CD-ROM disc in the drive; or click the DVD-ROM/CD-ROM driver from the Windows Explorer, and click the Setup icon.

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

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

Auto-Installing under Windows XP/Vista/7

If you are under Windows XP/Vista/7, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support DVD-ROM/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.

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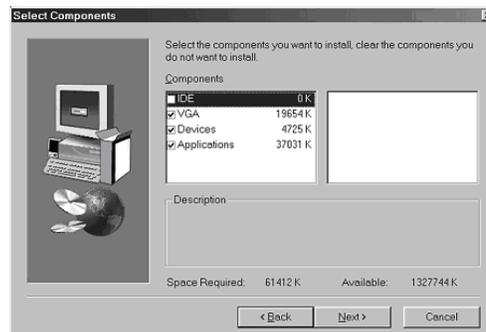
3 The support software will automatically install.

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.

> Windows Vista/7 will appear below UAC (User Account Control) message after the system restart. You must select "Allow" to install the next driver. Continue this process to complete the drivers installation.
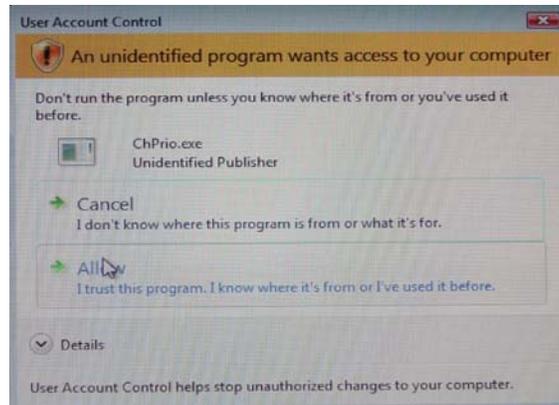
Bundled Software Installation

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

1 Click the **Utilities** button while the Auto Setup screen pops out after inserting the support DVD-ROM/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.

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Chapter 5 Trouble Shooting Tips

Start up problems during assembly

After assembling the PC for the first time you may experience some start up problems. Before calling for technical support or returning for warranty, this chapter may help to address some of the common questions using some basic troubleshooting tips.

a) System does not power up and the fans are not running.

1.Disassemble the PC to remove the VGA adaptor card, DDR memory, LAN, USB and other peripherals including keyboard and mouse. Leave only the motherboard, CPU with CPU cooler and power supply connected. Turn on again to see if the CPU and power supply fans are running.

2. Make sure to remove any unused screws or other metal objects such as screwdrivers from the inside PC case. This is to prevent damage from short circuit.

3. Check the CPU FAN connector is connected to the motherboard.

4. For Intel platforms check the pins on the CPU socket for damage or bent. A bent pin may cause failure to boot and sometimes permanent damage from short circuit.

5. Check the 12V power connector is connected to the motherboard.

6. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

b) Power is on, fans are running but there is no display

1. Make sure the monitor is turned on and the monitor cable is properly connected to the PC.
2. Check the VGA adapter card (if applicable) is inserted properly.
3. Listen for beep sounds. If you are using internal PC speaker make sure it is connected.
   a. continuous 3 short beeps : memory not detected
   b. 1 long beep and 8 short beeps : VGA not detected

c) The PC suddenly shuts down while booting up.

1. The CPU may experience overheating so it will shutdown to protect itself. Ensure the CPU fan is working properly.
2. From the BIOS setting, try to disable the Smartfan function to let the fan run at default speed. Doing a Load Optimised Default will also disable the Smartfan.

Start up problems after prolong use

After a prolong period of use your PC may experience start up problems again. This may be caused by breakdown of devices connected to the motherboard such as HDD, CPU fan, etc. The following tips may help to revive the PC or identify the cause of failure.

1. Clear the CMOS values using the CLR_CMOS jumper. Refer to CLR_CMOS jumper in Chapter 2 for Checking Jumper Settings in this user manual. When completed, follow up with a Load Optimised Default in the BIOS setup.

2. Check the CPU cooler fan for dust. Long term accumulation of dust will reduce its effectiveness to cool the processor. Clean the cooler or replace a new one if necessary.

3. Check that the 12V power & ATX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

4. Remove the hard drive, optical drive or DDR memory to determine which of these component may be at fault.

Maintenance and care tips

Your computer, like any electrical appliance, requires proper care and maintenance. Here are some basic PC care tips to help prolong the life of the motherboard and keep it running as best as it can.

1. Keep your computer in a well ventilated area. Leave some space between the PC and the wall for sufficient airflow.
2. Keep your computer in a cool dry place. Avoid dusty areas, direct sunlight and areas of high moisture content.

3. Routinely clean the CPU cooler fan to remove dust and hair.

4. In places of hot and humid weather you should turn on your computer once every other week to circulate the air and prevent damage from humidity.

5. Add more memory to your computer if possible. This not only speeds up the system but also reduces the loading of your hard drive to prolong its life span.

6. If possible, ensure the power cord has an earth ground pin directly from the wall outlet. This will reduce voltage fluctuation that may damage sensitive devices.

Basic Troubleshooting Flowchart

Power Button is pressed but PC fails to start.

Check if Power Supply Unit (PSU) is working

- **No** → AC power cord is plugged and PSU switch is turned on?
  - **No** → Turn on PSU switch or connect to wall socket and restart.
  - **Yes** → Problem with PSU or board? If board problem -> contact RMA

- **Yes** → Check if monitor has display
  - **No** → Any Beep sound?
    - **Yes** → - If 3 short beeps: DIMM memory not properly inserted or memory failure
      - If 1 long beep and 8 short beeps: VGA not detected
    - **No** → CLR CMOS and check if CPU 12V power is connected → Restart the PC → Check if monitor has display
      - **No** → Board problem -> contact RMA
      - **Yes** →
  - **Yes** → Halt at POST screen?
    - **Yes** → CLR CMOS and restart. If fail, contact RMA
    - **No** → Peripheral device issue
      - HDD problem.
      - CMOS setup error, need to CLRCMOS.

System fail to start or unstable after modify BIOS setting. → CLR CMOS and restart