



# 4Core1600-GLAN

## User Manual

Version 1.0

Published April 2008

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

### **CALIFORNIA, USA ONLY**

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

"Perchlorate Material-special handling may apply, see [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)"

**ASRock Website:** <http://www.asrock.com>

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## Chapter 1 Introduction

Thank you for purchasing ASRock **4Core1600-GLAN** motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, chapter 1 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.



Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website <http://www.asrock.com>  
If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.  
[www.asrock.com/support/index.asp](http://www.asrock.com/support/index.asp)

### 1.1 Package Contents

ASRock **4Core1600-GLAN** Motherboard

(ATX Form Factor: 12.0-in x 8.6-in, 30.5 cm x 21.8 cm)

ASRock **4Core1600-GLAN** Quick Installation Guide

ASRock **4Core1600-GLAN** Support CD

One 80-conductor Ultra ATA 66/100 IDE Ribbon Cable

One Ribbon Cable for a 3.5-in Floppy Drive

One Serial ATA (SATA) Data Cable (Optional)

One Serial ATA (SATA) HDD Power Cable (Optional)

One HDMI\_SPDIF Cable (Optional)

One "ASRock HD 6CH I/O" I/O Panel Shield

## 1.2 Specifications

<b>Platform</b>	- ATX Form Factor: 12.0-in x 8.6-in, 30.5 cm x 21.8 cm
<b>CPU</b>	- LGA 775 for Intel® Core™ 2 Extreme / Core™ 2 Quad / Core™ 2 Duo / Pentium® Dual Core / Celeron®, supporting Quad Core Yorkfield and Dual Core Wolfdale processors - Compatible with all FSB1600/1333/1066/800MHz CPUs (see <b>CAUTION 1</b> ) - Supports Hyper-Threading Technology (see <b>CAUTION 2</b> ) - Supports Untied Overclocking Technology (see <b>CAUTION 3</b> ) - Supports EM64T CPU
<b>Chipset</b>	- Northbridge: Intel® P31/G31 - Southbridge: Intel® ICH7
<b>Memory</b>	- Dual Channel DDR2 Memory Technology (see <b>CAUTION 4</b> ) - 4 x DDR2 DIMM slots (see <b>CAUTION 5</b> ) - Support DDR2 800/667 non-ECC, un-buffered memory (see <b>CAUTION 6</b> ) - Max. capacity of system memory: 4GB (see <b>CAUTION 7</b> )
<b>Hybrid Booster</b>	- CPU Frequency Stepless Control (see <b>CAUTION 8</b> ) - ASRock U-COP (see <b>CAUTION 9</b> ) - Boot Failure Guard (B.F.G.)
<b>Expansion Slot</b>	- 1 x PCI Express x16 slot - 2 x PCI Express x1 slots - 3 x PCI slots
<b>Audio</b>	- 5.1 CH Windows® Vista™ Premium Level HD Audio (ALC662 Audio Codec)
<b>LAN</b>	- PCIe x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111B/RTL8111C - Supports Wake-On-LAN
<b>Rear Panel I/O</b>	ASRock - 1 x PS/2 Mouse Port - 1 x PS/2 Keyboard Port - 1 x Serial Port: COM1 - 1 x Parallel Port (ECP/EPP Support) - 4 x Ready-to-Use USB 2.0 Ports - 1 x RJ-45 LAN Port - HD Audio Jack: Line in/Front Speaker/Microphone

<b>Connector</b>	<ul style="list-style-type: none"> <li>- 4 x Serial ATAII 3.0Gb/s connectors (No support for RAID and “Hot Plug” functions) (see <b>CAUTION 10</b>)</li> <li>- 1 x ATA100 IDE connector (supports 2 x IDE devices)</li> <li>- 1 x Floppy connector</li> <li>- 1 x DeskExpress Hot Plug Detection header</li> <li>- 1 x HDMI_SPDIF header</li> <li>- CPU/Chassis FAN connector</li> <li>- 24 pin ATX power connector</li> <li>- 4 pin 12V power connector</li> <li>- CD in header</li> <li>- Front panel audio connector</li> <li>- 2 x USB 2.0 headers (support 3 USB 2.0 ports) (see <b>CAUTION 11</b>)</li> <li>- 1 x WiFi/E header (see <b>CAUTION 12</b>)</li> </ul>
<b>BIOS Feature</b>	<ul style="list-style-type: none"> <li>- 4Mb AMI BIOS</li> <li>- AMI Legal BIOS</li> <li>- Supports “Plug and Play”</li> <li>- ACPI 1.1 Compliance Wake Up Events</li> <li>- Supports jumperfree</li> <li>- AMBIOS 2.3.1 Support</li> </ul>
<b>Support CD</b>	<ul style="list-style-type: none"> <li>- Drivers, Utilities, AntiVirus Software (Trial Version)</li> </ul>
<b>Hardware Monitor</b>	<ul style="list-style-type: none"> <li>- CPU Temperature Sensing</li> <li>- Chassis Temperature Sensing</li> <li>- CPU Fan Tachometer</li> <li>- Chassis Fan Tachometer</li> <li>- CPU Quiet Fan</li> <li>- Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore</li> </ul>
<b>OS</b>	<ul style="list-style-type: none"> <li>- Microsoft® Windows® 2000 / XP / XP 64-bit / Vista™ / Vista™ 64-bit compliant</li> </ul>
<b>Certifications</b>	<ul style="list-style-type: none"> <li>- FCC, CE, WHQL</li> </ul>

\* For detailed product information, please visit our website: <http://www.asrock.com>

**WARNING**

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, applying Untied Overclocking Technology, or using the third-party overclocking tools. Overclocking may affect your system stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.

## **CAUTION!**

1. FSB1600-CPU will operate in overclocking mode. If you use a FSB1600-CPU on this motherboard, you need to adjust the jumpers. If you want to overclock the CPU you adopt from FSB800 to FSB1066, you need to adjust the jumpers as well. Please refer to page 19 for proper jumper settings.
2. About the setting of "Hyper Threading Technology", please check page 30.
3. This motherboard supports Untied Overclocking Technology. Please read "Untied Overclocking Technology" on page 26 for details.
4. This motherboard supports Dual Channel Memory Technology. Before you implement Dual Channel Memory Technology, make sure to read the installation guide of memory modules on page 16 for proper installation.
5. There are memory module installation limitations on this motherboard, please read "Installation of Memory Modules (DIMM)" on page 16 for details.
6. Please check the table below for the CPU FSB frequency and its corresponding memory support frequency.

CPU FSB Frequency	Memory Support Frequency
1600	DDR2 800
1333	DDR2 667, DDR2 800
1066	DDR2 667, DDR2 800
800	DDR2 667, DDR2 800

7. Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows® XP and Windows® Vista™. For Windows® XP 64-bit and Windows® Vista™ 64-bit with 64-bit CPU, there is no such limitation.
8. Although this motherboard offers stepless control, it is not recommended to perform over-clocking. Frequencies other than the recommended CPU bus frequencies may cause the instability of the system or damage the CPU.
9. While CPU overheat is detected, the system will automatically shutdown. Before you resume the system, please check if the CPU fan on the motherboard functions properly and unplug the power cord, then plug it back again. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.
10. Before installing SATAII hard disk to SATAII connector, please read the "SATAII Hard Disk Setup Guide" on page 25 to adjust your SATAII hard disk drive to SATAII mode. You can also connect SATA hard disk to SATAII connector directly.
11. Power Management for USB 2.0 works fine under Microsoft® Windows® Vista™ 64-bit / Vista™ / XP 64-bit / XP SP1 or SP2 / 2000 SP4.

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12. WiFi/E header supports WiFi+AP function with ASRock WiFi-802.11g or WiFi-802.11n module, an easy-to-use wireless local area network (WLAN) adapter. It allows you to create a wireless environment and enjoy the convenience of wireless network connectivity. Please visit our website for the availability of ASRock WiFi-802.11g or WiFi-802.11n module. ASRock website <http://www.asrock.com>

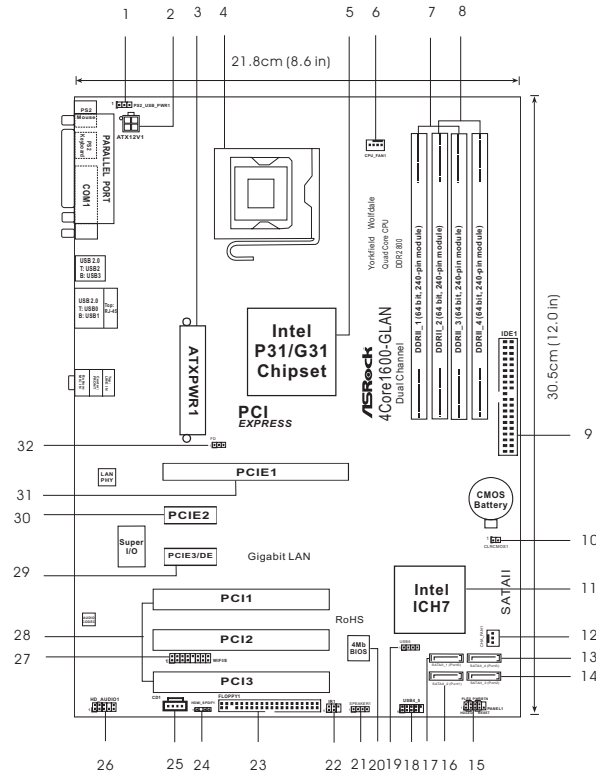
### 1.3 Minimum Hardware Requirement Table for Windows® Vista™ Premium 2007 and Basic Logo

For system integrators and users who purchase this motherboard and plan to submit Windows® Vista™ Premium 2007 and Basic logo, please follow below table for minimum hardware requirements.

CPU	Celeron 420
Memory	1GB system memory (Premium)
	512MB Single Channel (Basic)
VGA	DX9.0 with WDDM Driver
	with 128bit VGA memory (Premium)
	with 64bit VGA memory (Basic)

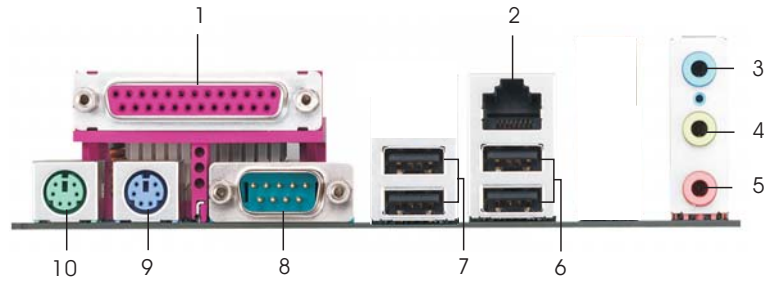
\* After June 1, 2007, all Windows® Vista™ systems are required to meet above minimum hardware requirements in order to qualify for Windows® Vista™ Premium 2007 logo.

## 1.4 Motherboard Layout



- |   |  |
|---|--|
| 1 PS2_USB_PWR1 Jumper   | 17 SATAII Connector (SATAII_1 (Port0))         |
| 2 ATX 12V Connector (ATX12V1)   | 18 USB 2.0 Header (USB4_5, Blue)               |
| 3 ATX Power Connector (ATXPWR1)   | 19 USB 2.0 Header (USB6, Blue)                 |
| 4 775-Pin CPU Socket  | 20 Flash Memory                                |
| 5 North Bridge Controller   | 21 Chassis Speaker Header (SPEAKER 1)          |
| 6 CPU Fan Connector (CPU_FAN1)  | 22 DeskExpress Hot Plug Detection Header (IR1) |
| 7 2 x 240-pin DDR2 DIMM Slots<br>(Dual Channel A: DDRII_1, DDRII_3; Yellow) | 23 Floppy Connector (FLOPPY1)                  |
| 8 2 x 240-pin DDR2 DIMM Slots<br>(Dual Channel B: DDRII_2, DDRII_4; Orange) | 24 HDMI_SPDIF Header (HDMI_SPDIF1)             |
| 9 IDE1 Connector (IDE1, Blue)   | 25 Internal Audio Connector: CD1 (Black)       |
| 10 Clear CMOS Jumper (CLRCMOS1)   | 26 Front Panel Audio Header (HD_AUDIO1)        |
| 11 South Bridge Controller  | 27 WiFi/E Header (WIFI/E)                      |
| 12 Chassis Fan Connector (CHA_FAN1)   | 28 PCI Slots (PCI1 - 3)                        |
| 13 SATAII Connector (SATAII_4 (Port3))                                      | 29 PCI Express x1 Slot (PCIE3/DE)              |
| 14 SATAII Connector (SATAII_3 (Port2))                                      | 30 PCI Express x1 Slot (PCIE2)                 |
| 15 System Panel Header (PANEL1)   | 31 PCI Express x16 Slot (PCIE1)                |
| 16 SATAII Connector (SATAII_2 (Port1))                                      | 32 FD Jumper                                   |


## 1.5 ASRock



- |   |                      |    |                             |
|---|----------------------|----|-----------------------------|
| 1 | Parallel Port        | 6  | USB 2.0 Ports (USB01)       |
| 2 | RJ-45 Port           | 7  | USB 2.0 Ports (USB23)       |
| 3 | Line In (Light Blue) | 8  | Serial Port: COM1           |
| 4 | Front Speaker (Lime) | 9  | PS/2 Keyboard Port (Purple) |
| 5 | Microphone (Pink)    | 10 | PS/2 Mouse Port (Green)     |

\* To enable Multi-Streaming function, you need to connect a front panel audio cable to the front panel audio header. Please refer to below steps for the software setting of Multi-Streaming.

### **For Windows® XP:**

After restarting your computer, you will find "Mixer" tool on your system. Please select "Mixer ToolBox" , click "Enable playback multi-streaming", and click "ok". Choose "2CH" or

"4CH" and then you are allowed to select "Realtek HDA Primary output" to use Rear Speaker and Front Speaker, or select "Realtek HDA Audio 2nd output" to use front panel audio. Then reboot your system.

### **For Windows® Vista™:**

After restarting your computer, please double-click "Realtek HD Audio Manager" on the system tray. Set "Speaker Configuration" to "Quadraphonic" or "Stereo". Click "Device advanced settings", choose "Make front and rear output devices playbacks two different audio streams simultaneously", and click "ok". Then reboot your system.

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## Chapter 2 Installation

**4Core1600-GLAN** is an ATX form factor (12.0" x 8.6", 30.5 x 21.8 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.



Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

### 2.1 Screw Holes

Place screws into the holes indicated by circles to secure the motherboard to the chassis.



Do not over-tighten the screws! Doing so may damage the motherboard.

### 2.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

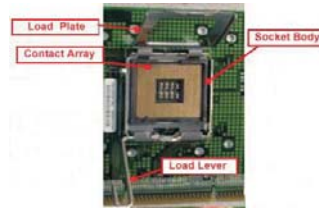
1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, **NEVER** place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.



Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

## 2.3 CPU Installation

For the installation of Intel 775-LAND CPU, please follow the steps below.



775-Pin Socket Overview



Before you insert the 775-LAND CPU into the socket, please check if the CPU surface is unclean or if there is any bent pin on the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.

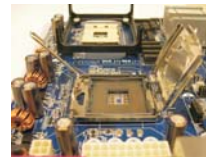
Step 1. Open the socket:

Step 1-1. Disengaging the lever by depressing down and out on the hook to clear retention tab.



Step 1-2. Rotate the load lever to fully open position at approximately 135 degrees.

Step 1-3. Rotate the load plate to fully open position at approximately 100 degrees.

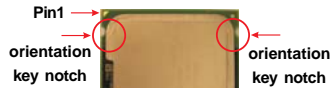


Step 2. Insert the 775-LAND CPU:

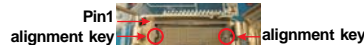
Step 2-1. Hold the CPU by the edges where are marked with black lines.



Step 2-2. Orient the CPU with IHS (Integrated Heat Sink) up. Locate Pin1 and the two orientation key notches.



775-LAND CPU



775-Pin Socket



For proper inserting, please ensure to match the two orientation key notches of the CPU with the two alignment keys of the socket.

Step 2-3. Carefully place the CPU into the socket by using a purely vertical motion.

Step 2-4. Verify that the CPU is within the socket and properly mated to the orient keys.



Step 3. Remove PnP Cap (Pick and Place Cap):

Use your left hand index finger and thumb to support the load plate edge, engage PnP cap with right hand thumb and peel the cap from the socket while pressing on center of PnP cap to assist in removal.



1. It is recommended to use the cap tab to handle and avoid kicking off the PnP cap.
2. This cap must be placed if returning the motherboard for after service.

Step 4. Close the socket:

Step 4-1. Rotate the load plate onto the IHS.

Step 4-2. While pressing down lightly on load plate, engage the load lever.

Step 4-3. Secure load lever with load plate tab under retention tab of load lever.



## 2.4 Installation of CPU Fan and Heatsink

This motherboard is equipped with 775-Pin socket that supports Intel 775-LAND CPU. Please adopt the type of heatsink and cooling fan compliant with Intel 775-LAND CPU to dissipate heat. Before you installed the heatsink, you need to spray thermal interface material between the CPU and the heatsink to improve heat dissipation. Ensure that the CPU and the heatsink are securely fastened and in good contact with each other. Then connect the CPU fan to the CPU\_FAN connector (CPU\_FAN1, see page 10, No. 6).

**For proper installation, please kindly refer to the instruction manuals of your CPU fan and heatsink.**

Below is an example to illustrate the installation of the heatsink for 775-LAND CPU.

Step 1. Apply thermal interface material onto center of IHS on the socket surface.



Step 2. Place the heatsink onto the socket. Ensure fan cables are oriented on side closest to the CPU fan connector on the motherboard (CPU\_FAN1, see page 10, No. 6).



Step 3. Align fasteners with the motherboard throughholes.

Step 4. Rotate the fastener clockwise, then press down on fastener caps with thumb to install and lock. Repeat with remaining fasteners.



If you press down the fasteners without rotating them clockwise, the heatsink cannot be secured on the motherboard.

Step 5. Connect fan header with the CPU fan connector on the motherboard.

Step 6. Secure excess cable with tie-wrap to ensure cable does not interfere with fan operation or contact other components.

## 2.5 Installation of Memory Modules (DIMM)

**4Core1600-GLAN** motherboard provides four 240-pin DDR2 (Double Data Rate 2) DIMM slots, and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install **identical** (the same brand, speed, size and chip-type) DDR2 DIMM pair in the slots of the same color. In other words, you have to install **identical** DDR2 DIMM pair in **Dual Channel A** (DDRII\_1 and DDRII\_3; Yellow slots; see p.10 No.7) or **identical** DDR2 DIMM pair in **Dual Channel B** (DDRII\_2 and DDRII\_4; Orange slots; see p.10 No.8), so that Dual Channel Memory Technology can be activated. This motherboard also allows you to install four DDR2 DIMMs for dual channel configuration, and please install **identical** DDR2 DIMMs in all four slots. You may refer to the Dual Channel Memory Configuration Table below.

### Dual Channel Memory Configurations (DS: Double Side, SS: Single Side)

	DDRII_1 (Yellow Slot)	DDRII_2 (Orange Slot)	DDRII_3 (Yellow Slot)	DDRII_4 (Orange Slot)
2 memory modules	SS	X	SS	X
2 memory modules	DS	X	DS	X
2 memory modules	X	SS	X	SS
2 memory modules	X	DS	X	DS
4 memory modules	SS	SS	SS	SS



1. If you want to install two memory modules, for optimal compatibility and reliability, it is recommended to install them in the slots of the same color. In other words, install them either in the set of yellow slots (DDRII\_1 and DDRII\_3), or in the set of orange slots (DDRII\_2 and DDRII\_4).
2. If only one memory module or three memory modules are installed in the DDR2 DIMM slots on this motherboard, it is unable to activate the Dual Channel Memory Technology.
3. If a pair of memory modules is NOT installed in the same Dual Channel, for example, installing a pair of memory modules in DDRII\_1 and DDRII\_2, it is unable to activate the Dual Channel Memory Technology .
4. It is not allowed to install a DDR memory module into DDR2 slot; otherwise, this motherboard and DIMM may be damaged.

**Recommended Memory Configurations**  
(DS: Double Side, SS: Single Side)

	DDRII_1 (Yellow Slot)	DDRII_2 (Orange Slot)	DDRII_3 (Yellow Slot)	DDRII_4 (Orange Slot)
1 memory module	DS/SS*	X	X	X
2 memory modules	DS/SS	X	DS/SS	X
2 memory modules	X	DS/SS	X	DS/SS
3 memory modules	SS	SS	DS/SS	X
4 memory modules	SS	SS	SS	SS

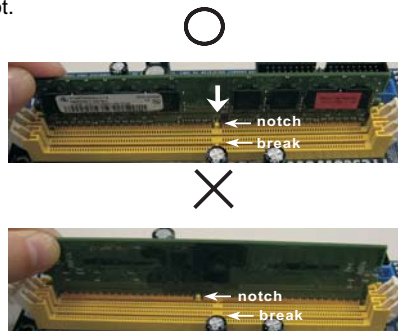
\* If you only install one memory module, you can install it to any one of the four slots.

**Installing a DIMM**



Please make sure to disconnect power supply before adding or removing DIMMs or the system components.

- Step 1. Unlock a DIMM slot by pressing the retaining clips outward.
- Step 2. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

- Step 3. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

---

## 2.6 Expansion Slots (PCI and PCI Express Slots)

There are 3 PCI slots and 3 PCI Express slots on this motherboard.

**PCI slots:** PCI slots are used to install expansion cards that have the 32-bit PCI interface.

**PCIe slots:** PCIe1 (PCIe x16 slot) is used for PCI Express cards with x16 lane width graphics cards.

PCIe2 / PCIe3/DE (PCIe x1 slot) is used for PCI Express cards with x1 lane width cards, such as Gigabit LAN card, SATA2 card and ASRock PCIe\_DE card.



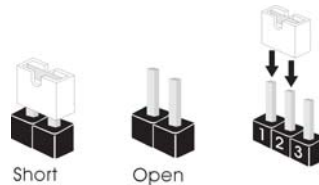
If you want to use ASRock DeskExpress function on this motherboard, please install ASRock PCIe\_DE card on PCIe3/DE slot.

### Installing an expansion card

- Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.
- Step 2. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.
- Step 3. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
- Step 4. Fasten the card to the chassis with screws.

## 2.7 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is "Short". If no jumper cap is placed on pins, the jumper is "Open". The illustration shows a 3-pin jumper whose pin1 and pin2 are "Short" when jumper cap is placed on these 2 pins.



Jumper	Setting	Description
PS2_USB_PWR1 (see p.10 No. 1)	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1_2</p> <p>+5V</p> </div> <div style="text-align: center;"> <p>2_3</p> <p>+5VSB</p> </div> </div>	Short pin2, pin3 to enable +5VSB (standby) for PS/2 or USB wake up events.

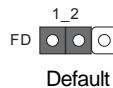
Note: To select +5VSB, it requires 2 Amp and higher standby current provided by power supply.

Clear CMOS  
(CLRCMOS1, 2-pin jumper)  
(see p.10 No. 10)



Note: CLRCMOS1 allows you to clear the data in CMOS. The data in CMOS includes system setup information such as system password, date, time, and system setup parameters. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short 2 pins on CLRCMOS1 for 5 seconds.

FD Jumper  
(FD, 3-pin jumper, see p.10 No. 32)



Note1: If you use a FSB1600-CPU on this motherboard, you need to adjust the jumpers. Please short pin2, pin3 for FD jumper. Otherwise, the CPU may not work properly on this motherboard. Please refer to below jumper settings.



Note2: If you want to overclock the FSB800-CPU you adopt to FSB1066 on this motherboard, you need to adjust the jumpers. Please short pin2, pin3 for FD jumper. Otherwise, the CPU may not work properly on this motherboard. Please refer to below jumper settings.



## 2.8 Onboard Headers and Connectors



Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

**FDD connector**  
(33-pin FLOPPY1)  
(see p.10 No. 23)



the red-striped side to Pin1

Note: Make sure the red-striped side of the cable is plugged into Pin1 side of the connector.

**Primary IDE connector (Blue)**

(39-pin IDE1, see p.10 No. 9)



connect the blue end  
to the motherboard



connect the black end  
to the IDE devices

80-conductor ATA 66/100 cable

Note: Please refer to the instruction of your IDE device vendor for the details.

**Serial ATAII Connectors**

(SATAII\_1 (Port0):  
see p.10, No. 17)



SATAII\_1 (Port0)



SATAII\_4 (Port3)

(SATAII\_2 (Port1):  
see p.10, No. 16)



SATAII\_2 (Port1)



SATAII\_3 (Port2)

(SATAII\_3 (Port2):  
see p.10, No. 14)

(SATAII\_4 (Port3):  
see p.10, No. 13)

These four Serial ATAII (SATAII) connectors support SATA data cables for internal storage devices. The current SATAII interface allows up to 3.0 Gb/s data transfer rate.

**Serial ATA (SATA)**

**Data Cable**

(Optional)

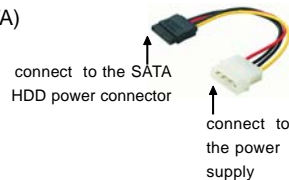


Either end of the SATA data cable can be connected to the SATA / SATAII hard disk or the SATAII connector on this motherboard.

**Serial ATA (SATA)**

**Power Cable**

(Optional)



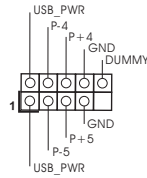
connect to the SATA  
HDD power connector

connect to  
the power  
supply

Please connect the black end of SATA power cable to the power connector on each drive. Then connect the white end of SATA power cable to the power connector of the power supply.

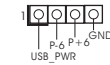
### USB 2.0 Headers

(9-pin USB4\_5)  
(see p.10 No. 18)



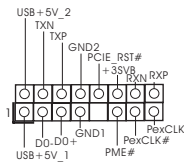
Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. USB4\_5 header can support two USB 2.0 ports, and USB6 header can support one USB 2.0 port.

(4-pin USB6)  
(see p.10 No. 19)



### WiFi/E Header

(15-pin WiFi/E)  
(see p.10 No. 27)



This header supports WiFi+AP function with ASRock WiFi-802.11g or WiFi-802.11n module, an easy-to-use wireless local area network (WLAN) adapter. It allows you to create a wireless environment and enjoy the convenience of wireless network connectivity.

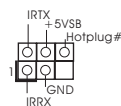


If you don't plan to use WiFi+AP function on this motherboard, this header can be used as a 4-Pin USB 2.0 header to support one USB 2.0 port. To connect the 4-Pin USB device cable to this header, please refer to this picture for proper installation.



### DeskExpress Hot Plug Detection Header

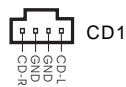
(5-pin IR1)  
(see p.10 No. 22)



This header supports the Hot Plug detection function for ASRock DeskExpress.

### Internal Audio Connectors

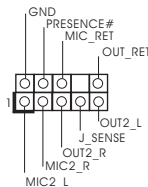
(4-pin CD1)  
(CD1: see p.10 No. 25)



This connector allows you to receive stereo audio input from sound sources such as a CD-ROM, DVD-ROM, TV tuner card, or MPEG card.

### Front Panel Audio Header

(9-pin HD\_AUDIO1)  
(see p.10 No. 26)



This is an interface for front panel audio cable that allows convenient connection and control of audio devices.











































