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ASRock P4i45GV Motherboard

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ASRock I/O™



- 1 Parallel Port
- 2 RJ-45 Port
- 3 Game Port
- 4 Microphone In (Pink)
- 5 Line In (Light Blue)

- 6 Line Out (Lime)
- 7 USB 2.0 Ports
- 8 VGA Port
- 9 PS/2 Keyboard Port (Purple)
- 10 PS/2 Mouse Port (Green)

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1. Introduction

Thank you for purchasing ASRock P4i45GV 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.

This Quick Installation Guide contains introduction of the motherboard and step-bystep installation guide. More detailed information of the motherboard can be found in the user manual presented in 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 memory and CPU support lists on ASRock website as well.

ASRock website http://www.asrock.com

1.1 Package Contents

ASRock P4i45GV Motherboard

(Micro ATX Form Factor: 9.6-in x 8.2-in, 24.4 cm x 20.8 cm) ASRock P4i45GV Quick Installation Guide ASRock P4i45GV Support CD One 80-conductor Ultra ATA 66/100 IDE Ribbon Cable One Ribbon Cable for a 3.5-in Floppy Drive One ASRock I/O[™] Shield One COM Port Bracket One ASRock MR Card (Optional)

1.2 Specifications

Platform:	Micro ATX Form Factor: 9.6-in x 8.2-in, 24.4 cm x 20.8 cm	
CPU:	Socket 478, supports Intel [®] Pentium [®] 4 (Prescott, Northwood,	
	Willimate) / Celeron [®] processor	
Chipsets:	North Bridge:	
	Intel® 845GV chipsets, FSB @ 533/400 MHz,	
	supports Hyper-Threading Technology (see CAUTION 1)	
	South Bridge:	
	Intel [®] ICH4	
VGA:	Intel® Extreme Graphics, Max. 64MB VRAM	
Memory:	2 DDR DIMM slots, DDR1 and DDR2	
	supports PC2700 (DDR333) / PC2100 (DDR266), Max. 2GB	
	(see CAUTION 2)	
IDE:	IDE1: ATA 100 / Ultra DMA Mode 5	
	IDE2: ATA 100 / Ultra DMA Mode 5	
	Supports up to 4 IDE devices	
Floppy Port:	Supports up to 2 floppy disk drives	
Audio:	5.1 channels AC'97 Audio	
PCI LAN:	Speed: 802.3u (10/100 Ethernet), supports Wake-On-LAN	
Hardware Monitor:	CPU temperature sensing, Chassis temperature sensing	
	CPU overheat shutdown to protect CPU life	
	(ASRock U-COP)(see CAUTION 3)	
	CPU fan tachometer, Chassis fan tachometer	
	Voltage monitoring: +12V, +5V, +3V, Vcore	
PCI slots:	3 slots with PCI Specification 2.2 (see CAUTION 4)	
AGI slot:	1 AGI [ASRock Graphics Interface] slot (see CAUTION 5)	
AMR slot:	1 slot, supports ASRock MR card (Optional)	
USB 2.0:	6 USB 2.0 ports:	
	includes 4 default USB 2.0 ports on the rear panel,	
	plus one header to support 2 additional USB 2.0 ports	
	(see CAUTION 6)	
ASRock I/O™:	1 PS/2 mouse port, 1 PS/2 keyboard port,	
	1 parallel port: ECP/EPP support, 1 VGA port	
	1 RJ 45 port, 4 default USB 2.0 ports	
	1 Game port	
	Audio Jack: Line Out / Line In / Microphone In	

BIOS:

AMI legal BIOS Supports "Plug and Play" ACPI 1.1 compliance wake up events Supports jumperfree SMBIOS 2.3.1 support CPU frequency stepless control (only for advanced users' reference, see **CAUTION 7**) Microsoft® Windows® 98SE / ME / 2000 / XP compliant

OS:

CAUTION!

- About the setting of "Hyper Threading Technology", please check page 23 of the User Manual in the support CD.
- 2. This motherboard will support PC2700(DDR333) at FSB 533MHz.
- 3. While CPU overheat is detected, the system will automatically shutdown. Please check if the CPU fan on the motherboard functions properly before you resume the system. To improve heat dissipation, remember to spray thermal grease between the CPU and the heatsink when you install the PC system.
- 4. Because the installed AMR card will occupy the same external connecting position with the PCI card installed in "PCI3" slot, you will no be able to install any PCI card in "PCI3" slot if an AMR card has already been installed in the AMR slot.
- 5. The AGI [ASRock Graphics Interface] slot is a special design that only supports compatible AGP VGA cards. For the information of the compatible AGP VGA cards, please refer to the "Supported AGP VGA Cards List" on page 7. For the proper installation of AGP VGA card, please refer to the installation guide on page 11.
- Power Management for USB 2.0 works fine under Microsoft[®] Windows[®] XP SP1/2000 SP4. It may not work properly under Microsoft[®] Windows[®] 98/ME. Please refer to Microsoft[®] official document at http://www.microsoft.com/whdc/hwdev/bus/USB/USB2support.mspx
- 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.

1.3 Supported AGP VGA Cards List

(for Windows 2000/Windows XP)

AGP 4X		
Graphics Chip	Model Name	
Vendor		
n-VIDIA	ASUS AGP-V7100	
	ASUS AGP-V7100PRO	
	ASUS AGP-V7100 MAGIC / 32M	
	ASUS AGP-V7700Ti	
	ASUS AGP-V8170DDR	
	ASUS AGP-V8170SE / LP	
	ASUS AGP-V8200 T2	
	ASUS AGP-V8200 T5	
	ASUS AGP-V8440	
	ASUS AGP-V8460 Ultra	
	GAINWARD- GF3-TI500/64M	
	GAINWARD- GF3-TI500/128M	
	Inno3D GeForce2 MX400	
	Leadtek WinFast A170 TH	
	Leadtek WinFast A170 DDR	
	Leadtek WinFast A250LE TD	
	Leadtek WinFast GeForce2 MX MX64	
	Leadtek WinFast GeForce2 H MX400	
	MSI-GF4-MX440SE	
	PROLINK GF4-MX440	
	SPARKLE GF4-MX440	
ATI	Gigabyte GV-AP64D	
	Gigabyte GV-AP64D-H	
	Gigabyte GV-AR64S-H	
	POWERCOLOR RADEON 9000	
	POWERCOLOR RADEON 9100	
	TRANSCEND TS64MVDR7	
SiS	SYNNEX GCM-SiS315EA32	

For the latest updates of the supported AGP VGA cards list, please visit ASRock website for details.

ASRock website: http://www.asrock.com/support/index.htm

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II. AGP 8X

Graphics Chip	Model Name
Vendor	
n-VIDIA	ALBATRON GF4-MX440 64M
	AOPEN Aeolus FX5600S-DV128
	AOPEN Aeolus FX5200-V128
	ASUS AGP-V9180
	ASUS AGP-V9280 VIEDO SUITE
	ASUS AGP-V9520 MAGIC/T
	ASUS V9900
	ASUS V9900 ULTRA
	ELSA-GLADIC 518
	ELSA-GLADIC 518 P
	Inno3D GeForce FX5600
	LEADTEK A280 LE
	LEADTEK A340TDH
	MSI Ti4800SE-VTD8X
	PALIT GF4 MX440 8X 64MB
	PROLINK GeForceFX5900
	PROLINK GF4-TI4200
	SPARKLE GF4-MX440-8X
ATI	CLUB3D ATI R9800
	Gigabyte GV R9000 PRO
	Gigabyte RADEON 9500
	Gigabyte RADEON 9700 PRO
	POWER COLOR 9200
	SAPHIRE RADEON 9200-128MB
SiS	POWER COLOR XABRE600

For the latest updates of the supported AGP VGA cards list, please visit ASRock website for details.

ASRock website: http://www.asrock.com/support/index.htm

2. Installation

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. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.
- 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 antstatic pad or in the bag that comes with the component.

2.1 CPU Installation

- Step 1. Unlock the socket by lifting the lever up to a 90° angle.
- Step 2. Position the CPU directly above the socket such that its marked corner matches the base of the socket lever.
- Step 3. Carefully insert the CPU into the socket until it fits in place.



The CPU fits only in one correct orientation. DO NOT force the CPU into the socket to avoid bending of the pins.

- Step 4. When the CPU is in place, press it firmly on the socket while you push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.
- Step 5. Install CPU fan and heatsink. For proper installation, please kindly refer to the instruction manuals of your CPU fan and heatsink vendors.

2.2 Installation of Memory Modules (DIMM)

P4i45GV motherboard provides two 184-pin DDR (Double Data Rate) DIMM slots.



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

Installing a DIMM

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.

2.3 Expansion Slots (PCI, AMR and AGI Slots)

There are 3 PCI slots, 1 AMR slot, and 1 AGI slot on this motherboard. PCI slots: PCI slots are used to install expansion cards that have the 32-bit PCI interface.



Because the installed AMR card will occupy the same external connecting position with the PCI card installed in "PCI3" slot, you will no be able to install any PCI card in "PCI3" slot if an AMR card has already been installed in the AMR slot.

- AMR slot: AMR slot is used to insert an ASRock MR card (optional) with v.92 Modem functionality.
- AGI slot: The AGI [ASRock Graphics Interface] slot is a special design that only supports compatible AGP VGA cards. For the information of the compatible AGP VGA cards, please refer to the "Supported AGP VGA Cards List" on page 7.



To install the system with an add-on AGP VGA card, you must make sure to install the driver of add-on AGP VGA card before you install the onboard VGA driver. If the onboard VGA driver has already been installed before you install the add-on AGP VGA card, the system will automatically set the onboard VGA as the primary graphics adapter. In that case, if you want to install the add-on AGP VGA card, you need to remove the onboard VGA driver first, and then install the add-on AGP VGA card and its driver. For the detailed instruction, please refer to the documents in the Support CD, "AGI Slot Installation Guide (for Windows 2000)" and "AGI Slot Installation Guide (for Windows XP)", which are located in the folder at the following path:

..\ Easy Dual Monitor

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 system unit cover (if your motherboard is already installed in a chassis).
- Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.
- Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.
- Step 5. Fasten the card to the chassis with screws.
- Step 6. Replace the system cover.

2.4 "Easy Dual Monitor"

Thanks to ASRock patented AGI8X Technology, this motherboard supports Easy Dual Monitor upgrade. With the internal onboard VGA and the external add-on AGP VGA card, you can easily enjoy the benefits of Dual Monitor feature. For the detailed instruction, please refer to the document at the following path in the Support CD:

..\ Easy Dual Monitor

2.5 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 the 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	Set	ting	Description
PS2_USB_PWR1	1_2	2_3	Short pin2, pin3 to enable
(see p.2, ,No. 1)	••0	000	+5VSB (standby) for PS/2 or
	+5V	+5728	USB wake up events.

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

JR1 (see p.2, No. 24)	0000	
JL1(see p.2, No. 23)	JR1 JL1	

Note: If the jumpers JL1 and JR1 are short (see the figure above), both the front panel and the rear panel audio connectors can work.

Clear CMOS	00	
(CLRCMOS0, 2-pin jumper)	2-pin jumper	
(see p.2, No. 18)		

Note: CLRCMOS0 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, then use a jumper cap to short the pins on CLRCMOS0 for 3 seconds. Please remember to remove the jumper cap after clearing the CMOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action.

2.6 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!

Connector	Figure	Description
FDD Connector		
(33-pin FLOPPY1)		
(see p.2, No. 13)	IPINI FLOPPYI	↑
		the red-striped side to Pin1

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



Note: If you use only one IDE device on this motherboard, please set the IDE device as "Master". Please refer to the instruction of your IDE device vendor for the details. Besides, to optimize compatibility and performance, please connect your hard disk drive to the primary IDE connector (IDE1, blue) and CD-ROM to the secondary IDE connector (IDE2, black).

USB 2.0 Header (9-pin USB45) (see p.2, No. 19)



ASRock I/O[™] accommodates 4 default USB 2.0 ports. If those USB 2.0 ports on the I/O panel are not sufficient, this USB 2.0 header is available to support 2 additional USB 2.0 ports.

Infrared Module Header (5-pin IR1) (see p.2, No. 16)



This header supports an optional wireless transmitting and receiving infrared module.

Internal Audio Connectors (4-pin CD1, 4-pin AUX1) (CD1: see p.2, No. 27) (AUX1: see p.2, No. 26)	CD-R GND GND CD-L CD-L CD-L CD-L CD-L CD-L CD-L CD-	These connectors allow 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 AUDIO1) (see p.2, No. 25)	GND BACKDUT-R BACKDUT-R BACKDUT-L BACKDUT-L BAD-OUT-L GND AUD-OUT-P MIC-POWER	This is an interface for front panel audio cable that allows convenient connection and control of audio devices.
System Panel Header (9-pin PANEL1) (see p.2, No. 14)	PLED.+ PLED. PLED. PVRBTN# IC-VID IC-VID IC-VID PREST# GND HDLED. HDLED +	This header accommodates dates several system front panel functions.
Chassis Speaker Header (4-pin SPEAKER 1) (see p.2, No. 15)		Please connect the chassis speaker to this header.
Chassis Fan Connector (3-pin CHA_FAN1) (see p.2, No. 12)	G G G G G H G G HA_FAN_SPEED	Please connect a chassis fan cable to this connector and match the black wire to the ground pin.
CPU Fan Connector (3-pin CPU_FAN1) (see p.2, No. 5)	G-GND G-+12V G-CPU_FAN_SPEED	Please connect a CPU fan cable to this connector and match the black wire to the ground pin.
ATX Power Header (20-pin ATXPWR1) (see p.2, No. 2)		Please connect an ATX power supply to this header.
COM Port Header (9-pin COM1) (see p.2, No. 17)	REND1 DDT##1 DDSR#1 DDSR#1 CCTS#1 CCTS#1 CCTS#1 RR#1 RR#1 RR#1 RRTS#1 GND TKD1 DDCD#1	This COM port header supports a COM port module.

3. BIOS Information

The BIOS Setup Utility is stored in the BIOS FWH chip. When you start up the computer, please press <F2> during the Power-On-Self-Test (POST) to enter the BIOS Setup Utility; otherwise, POST continues with its test routines. If you wish to enter the BIOS Setup Utility after POST, please resume the system by pressing <Ctb + <Alt> + <Delete>, or pressing the reset button on the system chassis. For the detailed information about the BIOS Setup Utility, please refer to the User Manual (PDF file) contained in the Support CD.

4. Software Support CD information

This motherboard supports various Microsoft[®] Windows[®] operating systems: 98 SE/ ME / 2000 / XP. The Support CD that came with the motherboard contains necessary drivers and useful utilities that will enhance motherboard features.

To begin using the Support CD, insert the CD into your CD-ROM drive. It will display the Main Menu automatically if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double-click on the file "ASSETUP.EXE" from the "BIN" folder in the Support CD to display the menus.

"PC-DIY Live Demo"

ASRock presents you a multimedia PC-DIY live demo, which shows you a step-by-step guide to install your own PC system. To see this demo program, you can run Microsoft[®] Media Player[®] to play the file, which can be found through the following path:

..\ MPEGAV \ AVSEQ01.DAT

