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User manual ASUS P5B
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Instruction manual ASUS P5B

P5B

ASUS

Motherboard



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Manual abstract:

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.....
.....
. vii Safety information

.....
.....
.....
.....
.....
.....
.....
.....

@@@xi Chapter 1: Product introduction 1.1 1.2 1.3 Welcome! @@@@1-1 Special features..

.....
.....
.....
.....
.....
.....
.....
.....

.... 1-2 1.3.1 1.3.2 1.3.
3 Product highlights

.....
.....
.....
.....
.....

..... 1-2 ASUS AI Lifestyle features .

.....
.....
.....
.....
.....

.... 1-3 ASUS Special features

.....
.....
.....
.....
.....

1-5 Chapter 2: Hardware information 2.1 2.2 Before you proceed ...

.....
.....

.....
.....
.....

.....
.....
.....

..... 2-1 Motherboard overview

.....
.....
.....

.....
.....
.....

. 2-2 2.2.1 2.2.2 2.2.3 2.2.4 2.
3.1 2.3.2 2.4.
1 2.4.3 2.4.4 2.
5.1 2.5.2 2.5.3 2.5.4 2.5.5 2.

5.6 Placement direction

.....
.....
.....

.....
.....
.....

..... 2-2 Screw holes ...

.....
.....
.....

.....
.....
.....

..... 2-2 Motherboard layout

.....
.....
.....

.....
.....
.....

.. 2-3 Layout contents.....

.....
.....
.....

.....
.....
.....

..... 2-4 Installing the CPU

.....
.....

.....

.....

.....

.....

.....

... 2-7 *Installing the heatsink and fan*

.....

.....

.....

.....

.... 2-9 *Overview* .

.....

.....

.....

.....

.....

.....

.....

.....

..... 2-13 2.3 *Central Processing Unit (CPU)*

.....

.....

.....

.....

.....

.....

.. 2-6 2.4 *System memory* ..

.....

.....

.....

.....

.....

.....

.....

.....

. 2-13 2.4.2 *Memory configurations*.....

.....

.....

.....

.....

.....

.....

... 2-13 *Installing a DIMM*

.....

.....

.....

.....

.....

.....

.....

. 2-16 *Removing a DIMM*

.....
.....
.....
.....

.. 2-16 Installing an expansion card ...

.....
.....
.....
.....

..... 2-17 Configuring an expansion card ..

.....
.....
.....
.....

..... 2-17 Interrupt assignments

.....
.....
.....
.....

..... 2-18 PCI slots.....

.....
.....
.....
.....
.....
.....
.....
.....

..... 2-19 PCI Express x1 slots ..

.....
.....
.....
.....
.....
.....
.....

. 2-19 PCI Express x16 slot.....

.....
.....
.....
.....
.....
.....

.... 2-19 2.5 Expansion slots.....

.....
.....
.....
.....
.....
.....

.....
.....

..... 2-17 iii Contents 2.
6.2.7 Jumper .. 2-20 Connectors ..

.....
.....

.....
.....
.....

.....
.....
.....
.....

.... 2-22 2.7.1 2.7.2 3.1 Rear panel connectors .

.....
.....
.....

.....
.....
.....

..... 2-22 Internal connectors .

.....
.....
.....
.....

.....
.....
.....

.... 2-24 Chapter 3: Powering up 3.2 Starting up for the first time

.....
.....
.....
.....

.....
.....
.....

. 3-1 Powering off the computer.....

.....
.....
.....
.....

.....
.....
.....

2.1 3.2.2 Using the OS shut down function.....

.....
.....
.....

..... 3-2 Using the dual function power switch.

.....
.....
.....

..... 3-2 Chapter 4: BIOS setup 4.

1 4.1.1 Managing and updating your BIOS

.....
.....
.....

. 4-1 4.1.2 4.1.

3 4.1.4 4.1.5 ASUS EZ Flash 2 utility.....

.....
.....
.....
.....

4-2 AFUDOS utility

.....
.....
.....
.....

.... 4-3 ASUS CrashFree BIOS 3 utility .

.....
.....
.....
.....

..... 4-5 ASUS Update utility ...

.....
.....
.....
.....

... 4-7 Creating a bootable floppy disk.....

.....
.....
.....
.....

.. 4-1 4.2 BIOS setup program

.....
.....
.....
.....
.....
.....
.....

..... 4-10 4.

2.2 4.2.3 4.2.

4 4.2.5 4.2.6 4.

2.7 4.2.8 4.2.9 4.2.1 Menu bar ...

.....

.....
.....
.....
.....
.....
..... 4-12 General help

.....
.....
.....
.....
.....
.....
.....

4-12 BIOS menu screen.....

.....
.....
.....
.....
.....

.....4-11 4.3 Main menu ..

.....
.....
.....
.....
.....
.....
.....
.....
.....

4-13 4.3.1 4.3.2 4.3.3 4.3.4 4.3.

5 4.3.6 System Time

.....
.....
.....
.....
.....
.....

..... 4-13 System Date ...

.....
.....
.....
.....
.....

.. 4-13 Legacy Diskette A ...

.....
.....

.....
.....
.....
.....

..... 4-13 SATA 1, 2, 3, 4 .

.....
.....
.....

.....
.....
.....
.....

. 4-14 IDE Configuration...

.....
.....

.....
.....
.....
.....

..... 4-15 System Information .

.....
.....
.....

.....
.....
.....
.....

.... 4-16 iv Contents 4.4 Advanced menu

.....
.....
.....

.....
.....
.....
.....

.....
.....

... 4-17 4.4.

1 4.4.2 4.4.4 4.4.5 4.5 4.4.6 4.

5.1 4.5.2 4.5.3 4.5.4 4.5.5 4.

6 4.5.6 4.6.1 4.

6.2 4.7 4.6.3 4.

7.1 4.7.2 JumperFree Configuration

.....
.....
.....
.....

..... 4-17 USB Configuration ...

.....
.....
.....

.....
.....

.....
.....

... 4-19 4.4.3 CPU Configuration

.....
.....

.....
.....
.....

. 4-20 Chipset

.....
.....

.....
.....
.....

4-21 Onboard Device Configuration.....

.....

.....
.....

... 4-22 PCI PnP

.....
.....
.....

.....
.....
.....

..... 4-24 Power menu

.....
.....

.....
.....
.....

.....
.....

..... 4-25 Suspend Mode

.....
.....
.....

.....
.....

..... 4-25 Repost Video on S3 Resume ...

.....
.....
.....
.....

..... 4-25 ACPI 2.0 Support ..

.....
.....
.....

.....
.....
.....
.....

..... 4-25 ACPI APIC Support

.....
.....
.....

.....
.....
.....
.....

. 4-25 APM Configuration

.....
.....
.....

.....
.....
.....

..... 4-26 Hardware Monitor ...

.....
.....
.....
.....

.....
.....
.....

... 4-27 Boot Device Priority

.....
.....
.....
.....

.....
.....
.....

... 4-28 Boot Settings Configuration ..

.....
.....
.....

.....
.....
.....

..... 4-29 Security .

.....
.....
.....
.....

.....

.....
.....
.....
.....
.....
.. 4-30 ASUS EZ Flash 2 ...

.....
.....
.....
.....
.....
.....

.....
4-32 ASUS O.C. Profile...

.....
.....
.....
.....
.....
.....

..... 4-33 Boot menu .

.....
.....
.....
.....
.....
.....

.....
.....
.....
.....

. 4-28 Tools menu

.....
.....
.....
.....
.....
.....

.....
.....
.....

.. 4-32 4.8 5.1 Exit menu

.....
.....
.....
.....
.....
.....

.....
.....

... 4-34 Installing an operating system ..

.....

.....

.....

.....

.....

..... 5-1 Support CD information .

.....

.....

.....

.....

.....

.....

.....

.....

. 5-1 5.2.1 5.2.

2 5.2.3 5.2.4 5.

2.5 5.2.6 5.2.7 5.3.1 Running the support CD ...

.....

.....

.....

.....

.....

.....

. 5-1 Drivers menu....

.....

.....

.....

.....

.....

.....

.....

.....

... 5-2 Utilities menu

.....

.....

.....

.....

.....

.....

.....

..... 5-3 Make Disk menu .

.....

.....

.....

.....

.....

.....

.....

.....

5-4 Manuals menu

.....

.....

.....

.....
.....
.....
.....

.... 5-5 ASUS Contact information

.....
.....
.....

.....
.....
.....

5-6 Other information

.....
.....
.....
.....

.....
.....
.....

5-6 ASUS MyLogo2TM

.....
.....
.....
.....

.....
.....

.... 5-8 Chapter 5: Software support 5.

2 5.3 Software information

.....
.....
.....
.....

.....
.....
.....

..... 5-8 v Contents 5.3.

2 5.3.3 5.3.4 ASUS PC Probe II.....

.....
.....
.....

.....
.....
.....
.....

. 5-10 ASUS AI Suite

.....
.....
.....

.....
.....
.....
.....

.... 5-16 ASUS AI Gear

.....

.....
.....

.....
.....
.....

..... 5-18 5.3.5 5.
4 5.3.6 ASUS AI Nap ...

.....
.....

.....
.....
.....

.....
.....
.. 5-19 SoundMAX® High Definition Audio utility

.....

..... 5-20 RAID configurations .

.....
.....

.....
.....
.....

.....
.....
5-24 5.4.1 5.4.2 Installing Serial ATA hard disks .

.....

.....
.....

..... 5-24 JMicron® RAID Configuration

.....
.....
.....

..... 5-25 5.5 5.5.1 5.
5.2 Creating a RAID/SATA driver disk

.....
.....

.....
.....

..... 5-33 Creating a RAID/SATA driver disk in Windows®.....

.....

.. 5-33 Creating a RAID/SATA driver disk without entering the OS .. 5-33 Appendix: CPU features A.
1 A.2 Intel® EM64T....

.....

.....
.....
.....

.....
.....
.....
.....

.....A-1 A.2.

1 Enhanced Intel SpeedStep® Technology (EIST)

.....
.....

....A-1 A.2.2 System requirements

.....
.....
.....
.....
.....
.....

A-1 Using the EIST

.....
.....
.....
.....
.....
.....

....A-2 A.3 Intel® Hyper-Threading Technology

.....
.....
.....
.....
.....

...A-3 vi Notices Federal Communications Commission Statement This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: · · This device may not cause harmful interference, and This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instrsettings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided. Chapter 5: Software support This chapter describes the contents of the support CD that comes with the motherboard package. Appendix: CPU features The Appendix describes the CPU features and technologies that the motherboard supports. Chapter 1: Product introduction · · · · Where to find more information Refer to the following sources for additional information and for product and software updates. 1. The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

Optional documentation Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package. ASUS websites 2. ix Conventions used in this guide To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual. DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task. CAUTION: Information to prevent damage to the components when trying to complete a task. IMPORTANT: Instructions that you MUST follow to complete a task. NOTE:evice drivers ASUS PC Probe II ASUS Update ASUS AI Suite Anti-virus software (OEM version) ATX form factor: 12 in x 8.6 in (30.5 cm x 21.

*8 cm) Form factor *Specifications are subject to change without notice. xiii xiv This chapter describes the motherboard features and the new technologies it supports. Product introduction 1 Chapter summary 1.1 1.2 1.*

3 Welcome! @@@@1-1 Special features.....

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1-2 1 ASUS P5B 1.1 Welcome! Thank you for buying an ASUS® P5B motherboard! The motherboard delivers a host of new features and latest technologies, making it another standout in the long line of ASUS quality motherboards! Before you start installing the motherboard, and hardware devices on it, check the items in your package with the list below. 1.2 Package contents ASUS P5B 1 x 2-port USB 2.



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0 module 2 x Serial ATA cable kit 1 x Ultra DMA 133/100/66 cable 1 x Floppy disk drive cable I/O shield 1 x ASUS Q-Connector Kit (USB, system panel; Retail version only) ASUS motherboard support CD User guide Check your motherboard package for the following items. Motherboard I/O modules Cables Accessories Application CD Documentation If any of the above items is damaged or missing, contact your retailer. ASUS P5B 1-1 1.3 1.3.

1 Special features Product highlights Green ASUS This motherboard and its packaging comply with the European Union's Restriction on the use of Hazardous Substances (RoHS). This is in line with the ASUS vision of creating environment-friendly and recyclable products/packaging to safeguard consumers' health while minimizing the impact on the environment. LGA775 Intel® Core™2 Processor Ready This motherboard supports the latest Intel® Core™2 processor in the LGA775 package. With the new Intel® Core™2 microarchitecture technology and 1066 / 800 MHz FSB, Intel® Core™2 processor is one of the most powerful and energy efficient CPU in the world. Intel P965 Chipset The Intel® P965 Express Chipset is the latest chipset designed to support 8GB of dual-channel DDR2 800/667/533 architecture, 1066/800/533 FSB (Front Side Bus), PCI Express x16 graphics and multi-core CPU.

It especially includes the Intel® Fast Memory Access technology that significantly optimizes the use of available memory bandwidth and reduces the latency of the memory accesses. DDR2 memory support The motherboard supports DDR2 memory that features data transfer rates of 800/667/533 MHz to meet the higher bandwidth requirements of the latest 3D graphics, multimedia, and Internet applications. The dual-channel DDR2 architecture doubles the bandwidth of your system memory to boost system performance, eliminating bottlenecks with peak bandwidths of up to 12.8 GB/s. Without restriction to the memory size across the two channels, the motherboard allows you to install DIMMs with different memory size and enjoy dual-channel feature at the same time.

See pages 2-13 to 2-15 for details. Serial ATA 3.0 Gb/s technology and SATA on the go This motherboard supports the next-generation hard drives based on the Serial ATA (SATA) 3Gb/s storage specification, delivering enhanced scalability and doubling the bus bandwidth for high-speed data retrieval and saves. The external SATA port located at the back I/O provides smart setup and hot-plug functions. Easily backup photos, videos and other entertainment contents to external devices. See pages 2-23, 2-26, and 2-27 for details. 1-2 Chapter 1: Product introduction S/PDIF digital sound ready This motherboard provides convenient connectivity to external home theater audio systems via coaxial and optical S/PDIF-out (SONY-PHILIPS Digital Interface) jack. It allows to transfer digital audio without converting to analog format and keeps the best signal quality. See pages 2-24 and 2-27 for details. High Definition Audio Enjoy high-end sound quality on your PC! The onboard 8-channel HD audio (High Definition Audio, previously codenamed Azalia) CODEC enables high-quality 192KHz/24-bit audio output, jack-sensing feature, retasking functions and multi-streaming technology that simultaneously sends different audio streams to different destinations.

You can now talk to your partners on the headphone while playing multi-channel network games. See page 4-22 for details. 1.3.2 ASUS AI Lifestyle features ASUS Quiet Thermal Solution ASUS Quiet Thermal solution makes system more stable and enhances the overclocking capability. AI Gear AI Gear provides four modes that adjust the CPU frequency and Vcore voltage minimizing system noise and power consumption. You can choose the mode that best suits your computing needs. See page 5-18 for details. AI Nap With AI Nap, the system can continue running at minimum power and noise when you are temporarily away. To wake the system and return to the OS environment, simply click the mouse or press a key.

See page 5-19 for details. Q-Fan 2 ASUS Q-Fan2 technology intelligently adjusts both CPU fan and chassis fan speeds according to system loading to ensure quiet, cool and efficient operation. ASUS P5B 1-3 ASUS Crystal Sound This feature enhances speech-centric applications like Skype, online games, video conference and recording. Noise Filter This feature detects repetitive and stationary noises (non-voice signals) like computer fans, air conditioners, and other background noises then eliminates it in the incoming audio stream while recording. ASUS EZ DIY ASUS EZ DIY feature collection provides you easy ways to install computer components, update the BIOS or back up your favorite settings.

ASUS Q-Connector ASUS Q-Connector allows you to easily connect or disconnect the chassis front panel cables to the motherboard. This unique module eliminates the trouble of connecting the system panel cables one at a time and avoiding wrong cable connections. ASUS O.C. Profile The motherboard features the ASUS O.

C. Profile that allows users to conveniently store or load multiple BIOS settings. The BIOS settings can be stored in the CMOS or a separate file, giving users freedom to share and distribute their favorite settings. See page 4-33 for details. ASUS CrashFree BIOS 3 The ASUS CrashFree BIOS 3 allows users to restore corrupted BIOS data from a USB flash disk containing the BIOS file. See page 4-5 for details. ASUS EZ Flash 2 EZ Flash 2 is a user-friendly BIOS update utility. Simply press the predefined hotkey to launch the utility and update the BIOS without entering the OS. Update your BIOS easily without preparing a bootable diskette or using an OS-based flash utility. See page 4-2 for details.

1-4 Chapter 1: Product introduction 1.3.3 ASUS Special features ASUS MyLogo2™ This feature allows you to convert your favorite photo into a 256-color boot logo for a more colorful and vivid image on your screen. See page 4-29 for details. 1.3.4 ASUS Intelligent Overclocking features AI NOSTM (Non-Delay Overclocking System) The patented ASUS Non-delay Overclocking System™ (AI NOSTM) technology auto-detects the CPU loading and dynamically overclocks the CPU speed when needed. Unlike other dynamic overclocking techniques, AI NOSTM reacts much faster to satisfy your need for speed. See page 4-19 for details. PEG Link Mode This feature enhances your PCI Express graphics card performance.

It allows the motherboard to automatically adjust the PCI Express graphics link mode to the correct frequency based on the system configuration. Four additional settings are available for overclocking the PEG Link Mode. Precision Tweaker This feature allows you to fine tune the CPU/memory voltage and gradually increase the memory Front Side Bus (FSB) and PCI Express frequency at 1MHz increment to achieve maximum system performance. C.P.

R. (CPU Parameter Recall) The C.P.R. feature of the motherboard BIOS allows automatic re-setting to the BIOS default settings in case the system hangs due to overclocking.



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When the system hangs due to overclocking, C.P.R. eliminates the need to open the system chassis and clear the RTC data. Simply shut down and reboot the system, and the BIOS automatically restores the CPU default setting for each parameter. Due to chipset behavior, AC power off is required prior using C.P.R. function. ASUS P5B 1-5 1-6 Chapter 1: Product introduction This chapter lists the hardware setup procedures that you have to perform when installing system components.

It includes description of the jumpers and connectors on the motherboard. Hardware information 2 Chapter summary 2 2.1 2.2 2.3 2.4 2.5

Before you proceed...

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.....
.....

.....
.....
.....

.....
.....

2-1 Motherboard overview.....

.....
.....
.....
.....

.....
.....
.....

2-2 Central Processing Unit (CPU).....

.....
.....
.....

2-6 System memory.....

.....
.....
.....
.....

.....
.....
.....

2-13 Jumper.. 2-20 Connectors....

.....
.....
.....

.....
.....
.....

2-22 Expansion slots...

.....
.....

.....
.....
.....
.....
.....
.....
.....

2-17 . 2.6 2.7 ASUS P5B 2.1 Before you proceed Take note of the following precautions before you install motherboard components or change any motherboard settings. . . Unplug the power cord from the wall socket before touching any component. Use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity. Hold components by the edges to avoid touching the ICs on them. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component. Before you install or remove any component, ensure that the ATX power supply 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. . . OnboardLED The motherboard comes with a standby power LED that lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard LED. R P5B SB_PWR ON Standby Power OFF Powered Off P5B OnboardLED ASUS P5B 2- 2.

2 Motherboard overview 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 can cause you physical injury and damage motherboard components. 2.2.

1 Placementdirection When installing the motherboard, make sure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below. 2.2.2 Screwholes Place six (6) screws into the holes indicated by circles to secure the motherboard to the chassis. Do not overtighten the screws! Doing so can damage the motherboard. Place this side towards the rear of the chassis 2-2 Chapter 2: Hardware information R P5B 2.2.3 KBPWR Motherboardlayout 21.8cm(8).

6in) EATX2V CPU_FAN PWR_FAN PS/2KBMS T: Mouse B: Keyboard SPDIF_O SPDIF_O2 PARALLE PORT P5B ESATA USB2 USBPW2 LAN_USB R CHA_FAN AUDIO USB90 USBPW90 PCIEX_PCIEX6_ADI988A PCI2 CD SPI BIOS Intel ICH8 FLOPPY PCI SATA SATA2 SATA JMB6 PCIEX_2 PCIEX_CR202 V Lithium Cell CMOS Power Super I/O SATA_RAID SATA COM USB56 USBPW5678 PRI_IDE USB78 AAFP ADH SPDIF_OUT ASUS P5B CLRTC PCI SB_PWR CHASSIS PANEL CHA_FAN2 RTL8B EATXPWR Intel MCH P965 DDR2 DIMM_A (6 bit,20-pin module) DDR2 DIMM_A2 (6 bit,20-pin module) DDR2 DIMM_B (6 bit,20-pin module) DDR2 DIMM_B2 (6 bit,20-pin module) LGA775 30.5cm(12.0in) 2- 2.2.4 S lots Layoutcontents Page . 2. . . DDR2 DIMM slots PCI slots PCI Express x slots PCI Express x6 slot 2- 2-9 2-9 2-9 Jumper Page . Clear RTC RAM (-pin CLRTC) 2. USB Device wake-up (-pin USBPW2, USBPW5678, USBPW90) . Keyboard power (-pin KBPWR) 2-20 2-2 2-2 Rearpanelconnectors 1. Page 2-22 . . 5. 6. 7. 8. 9. 0.

. 2. . . 5. 2. PS/2 mouse port (green) Parallel port LAN (RJ-5) port Rear Speaker Out port (black) Center/Subwoofer port (orange) Line In port (light blue) Line Out port (lime) Microphone port (pink) Side Speaker Out port (gray) USB 2.0 ports and USB 2.0 ports and 2 External SATA port Optical S/PDIF Out port Coaxial S/PDIF Out port PS/2 keyboard port (purple) 2-22 Chapter 2: Hardware information Internalconnectors Page . 2.

. . . 5. 6. 7. 8. 9. 0. . 2.

. Floppy disk drive connector (- pin FLOPPY) IDE connector (0- pin PRI_IDE) ICH8 Serial ATA connectors (7-pin SATA, SATA2,SATA, SATA) JMicron® JMB6 Serial ATA RAID connector (7-pin SATA_RAID) Digital audio connector (- pin SPDIF_OUT) USB connectors (0- pin USB56, USB 78, USB90) Optical drive audio connector (-pin CD) CPU, chassis, and power fan connectors (-pin CPU_FAN, -pin CHA_FAN, -pin CHA_FAN2, -pin PWR_FAN) Serial port connector (0- pin COM) Chassis intrusion connector (- pin CHASSIS) Front panel audio connector (0- pin AAFP) ATX power connectors (2-pin EATXPWR, -pin EATX2V) System panel connector (20-8 pin PANEL) 2-2 2-25 2-26 2-27 2-27 2-28 2-28 2-29 2-29 2-0 2-0 2- 2-2 ASUS P5B 2-5 2.3 Central Processing Unit (CPU) The motherboard comes with a surface mount LGA775 socket designed for the Intel® Core™2/Pentium® D/Pentium® /Pentium® Extreme and Celeron® D processors. . . Make sure the AC power is off before you install the CPU. If installing a dual-core CPU, connect the chassis fan cable to the CHA_FAN connector to ensure system stability.

Upon purchase of the motherboard, make sure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related. Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA775 socket.

The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/ incorrect removal of the PnP cap. . . 2-6 Chapter 2: Hardware information 2.3.1 . InstallingtheCPU To install a CPU: Locate the CPU socket on the motherboard. P5BCPU Socket775 Before installing the CPU, make sure that the cam box is facing towards you and the load lever is on your left. 2. Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab. Retentiontab Loadlever R P5B A PnPcap B Thissideofthesocketbox shouldfaceyou. To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU.



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· Lift the load lever in the direction of the arrow to a 5° angle. ASUS P5B 2-7 . Lift the load plate with your thumb and forefinger to a 100° angle (A), then push the PnP cap from the load plate window to remove (B). B A Loadplate Alignmentkey 5. Position the CPU over the socket, making sure that the gold triangle is on the bottom-left corner of the socket then fit the socket alignment key into the CPU notch. CPU notch Gold triangle mark The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU! 6. 7. Close the load plate (A), then push the load lever (B) until it snaps into the retention tab.

A If installing a dual-core CPU, connect the chassis fan cable to the CHA_FAN connector to ensure system stability. B The motherboard supports Intel® LGA775 processors with the Intel® Enhanced Memory 6 Technology (EM6T), Enhanced Intel SpeedStep® Technology (EIST), and Hyper-Threading Technology. Refer to the Appendix for more information on these CPU features. 2-8 Chapter 2: Hardware information 2.3.

2 ® Installing the CPU heatsink and fan The Intel LGA775 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance. · When you buy a boxed Intel® processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel® certified multidirectional heatsink and fan. Your Intel® LGA775 heatsink and fan assembly comes in a push-pin design and requires no tool to install. If you purchased a separate CPU heatsink and fan assembly, make sure that you have properly applied Thermal Interface Material to the CPU heatsink or CPU before you install the heatsink and fan assembly.

· Make sure that you have installed the motherboard to the chassis before you install the CPU fan and heatsink assembly. To install the CPU heatsink and fan: · Place the heatsink on top of the installed CPU, making sure that the four fasteners match the holes on the motherboard. Orient the heatsink and fan assembly such that the CPU fan cable is closest to the CPU fan connector. Motherboard hole Narrow end of the groove Fastener Make sure to orient each fastener with the narrow end of the groove pointing outward. (The photo shows the groove shaded for emphasis.) ASUS P5B 2-9 2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place. A A B B A B A . Connect the CPU fan cable to the connector on the motherboard labeled CPU_FAN.

CPU_FAN GND CPU_FAN_PWR CPU_FAN_IN CPU_FAN_PWM P5B P5BCPUFanConnector Do not forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector. 2-0 R Chapter 2: Hardware information 2.3.3 . 2. Uninstalling the CPU heatsink and fan To uninstall the CPU heatsink and fan: Disconnect the CPU fan cable from the connector on the motherboard. Rotate each fastener counterclockwise. · Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard. B A B A A B A .

Carefully remove the heatsink and fan assembly from the motherboard. ASUS P5B 2- 5. Rotate each fastener clockwise to ensure correct orientation when reinstalling. Narrow end of the groove The narrow end of the groove should point outward after resetting. (The photo shows the groove shaded for emphasis.)) Refer to the documentation in the boxed or stand-alone CPU fan package for detailed information on CPU fan installation. 2-2 Chapter 2: Hardware information 2.4 2.4.1 System memory Overview The motherboard comes with four Double Data Rate 2 (DDR2) Dual Inline Memory Modules (DIMM) sockets.

A DDR2 module has the same physical dimensions as a DDR DIMM but has a 20-pin footprint compared to the 8-pin DDR DIMM. DDR2 DIMMs are notched differently to prevent installation on a DDR DIMM socket. The figure illustrates the location of the DDR2 DIMM sockets: R DIMM_A2 P5B 240-pin DDR2 DIMM Sockets Channel Channel B Channel A Sockets DIMM_B and DIMM_B2 DIMM_A and DIMM_A2 2.4.2 Memory configurations You may install 256 MB, 512 MB, 1 GB, and 2 GB unbuffered non-ECC DDR2 DIMMs into the DIMM sockets. · You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation. Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor.

If you install four or 2GB memory modules, the system may only recognize less than 4GB because the address space is reserved for other critical functions. This limitation appears on Windows® XP 2-bit operation system which does not support Physical Address Extension (PAE). If you install Windows® XP 2-bit operation system, a total memory of less than 4GB is recommended. This motherboard does not support memory modules made up of 28 Mb chips or double sided x6 memory modules. 2- · · · · · ASUS P5B DIMM_A1 DIMM_B1 DIMM_B2 28 Pins 2 Pins P5B Notes on memory limitations · Due to chipset limitation, this motherboard can only support up to 8 GB on the operating systems listed below. You may install a maximum of 2 GB DIMMs on each slot, but only DDR2-5 and DDR2-667 2 GB density modules are available for this configuration. Windows® 2000 Advanced Server · 2-bit Windows® XP Professional x6 Edition 6-bit Some old-version DDR2-800/667 DIMMs may not match Intel®'s On-Die-Termination (ODT) requirement and will automatically downgrade to run at DDR2-5. If this happens, contact your memory vendor to check the ODT value. Due to chipset limitation, DDR2-800 with CL= will be downgraded to run at DDR2-667 by default setting. If you want to operate with lower latency, adjust the memory timing manually.

Due to chipset limitation, DDR2-667 with CL= will be downgraded to run at DDR2-5 by default setting. If you want to operate with lower latency, adjust the memory timing manually. · 2- Chapter 2: Hardware information Qualified Vendors Lists (QVL) DDR2800 Size 256MB 512MB 52MB 02MB 02MB 52MB 52MB Vendor SAMSUNG Infineon Hynix Hynix KINGSTON ChipNo. KT5608QF-ZCE7 KT508QC Side(s) SS SS SS PartNo. M78T25FZ-CE7 KVR800D2N5/52 DIMM support A B C · · · · · HYB18T256800AF25F HY5PS282BFP-S5 HY5PS282BFP-S5 5ZD22D9GKX AD29608A8A-25EG DS DS DS SS HYS64T64020HU25FA HYMP56U6BP8-S5 HYMP52U6BP8-S5 MICRON A-DATA MT6HTF286AY-80ED M20AD6GH60IE5E DDR2667 Size 52MB 512MB 256MB 512MB 52MB 02MB 52MB Vendor SAMSUNG Infineon Infineon Infineon Hynix ELPIDA SAMSUNG ChipNo ZCE6KT508QC KT5608QF-ZCE6 Side(s) SS SS SS SS SS DS N/A DS PartNo.



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M78T655CZ0-CE6 M78T65FZ0-CE6 DIMM support A B C HYB18T512800AF3S HYB18T512800BF3S HY5PS282AFP-Y5 E508AE-6E-E E508AE-6E-E E508AE-6E-E HYB18T512160BF3S HYS64T64000HU3SA HYS64T32000HU3SB HYS64T64000HU3SB EBE5UD8AEFA-6E-E TS6MLQ6V6J N/A HYMP52U6AP8-Y5 52MB A-DATA Transcend . . Side(s):SS-Single-sidedDS-Double-sided DIMMsupport: A Supports one module inserted into any slot as Singlechannel memory configuration. B - Supports one pair of modules inserted into either the blue slots or the black slots as one pair of Dualchannel memory configuration. C - Supports four modules inserted into both the blue and black slots as two pairs of Dualchannel memory configuration. Visit the ASUS website (www.asus.

com) for the latest QVL. ASUS P5B 2-5 2.4.3 Installing a DIMM Unplug the power supply before adding or removing DIMMs or other system components. Failure to do so can cause severe damage to both the motherboard and the components. To install a DIMM: . 2. . Unlock a DIMM socket by pressing the retaining clips outward. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket.

3 2 DDR2DIMMnotch 1 1 Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated.

Unlocked retaining clip . . A DDR2 DIMM is keyed with a notch so that it fits in only one direction. Do not force a DIMM into a socket to avoid damaging the DIMM. The DDR2 DIMM sockets do not support DDR DIMMs. Do not install DDR DIMMs to the DDR2 DIMM sockets. 2.4.4 . Removing a DIMM 2 To remove a DIMM: Simultaneously press the retaining clips outward to unlock the DIMM. Support the DIMM lightly with your fingers when pressing the retaining clips.

The DIMM might get damaged when it flips out with extra force. 1 1 DDR2DIMMnotch 2. Remove the DIMM from the socket. 2-6 Chapter 2: Hardware information 2.5 Expansion slots In the future, you may need to install expansion cards.

The following sub-sections describe the slots and the expansion cards that they support. Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components. 2.5.

1 . 2. . 4. 5. 6. Installing an expansion card To install an expansion card: Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card. Remove the system unit cover (if your motherboard is already installed in a chassis). Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.

Align the card connector with the slot and press firmly until the card is completely seated on the slot. Secure the card to the chassis with the screw you removed earlier. Replace the system cover. 2.5.2 . 2. . Configuring an expansion card After installing the expansion card, configure it by adjusting the software settings. Turn on the system and change the necessary BIOS settings, if any.

See Chapter for information on BIOS setup. Assign an IRQ to the card. Refer to the tables on the next page. Install the software drivers for the expansion card. When using PCI cards on shared slots, ensure that the drivers support "Share IRQ" or that the cards do not need IRQ assignments.

Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable. Refer to the table on the next page for details. ASUS P5B 2-7 2.5.3 IRQ Interrupt assignments Priority 2 -- 2 5 6 5 6 7 8 9 Standard Function Standard interrupt assignments 0 2 5 6 7 8 9 0 2 5 System Timer Keyboard Controller Re-direct to IRQ#9 IRQ holder for PCI steering* Communications Port (COM)* IRQ holder for PCI steering* Floppy Disk Controller Printer Port (LPT)* System CMOS/Real Time Clock ACPI* SMBus Controller* IRQ holder for PCI steering* PS/2 Compatible Mouse Port* Numeric Data Processor IDEIRQ (legacy mode, combined mapped as primary), SMasterATA (Master), SATA (Secondary) IDEIRQ (legacy mode, combined mapped as secondary), SATA2 (Master), SATA (Secondary) 0 * These IRQs are usually available for PCI devices.

IRQ assignments for this motherboard PCI PCI2 PCI PCIEX6_ PCIEX_ PCIEX_2 PCIEX_ On-board ESATA, SATA_RAID On-board PRI_IDE On-board HD Audio (ADI988A) On-board GbEthernet (RTL8B) USB 2.0 EHCI# USB2 OBCI# USB OBCI#2 USB56 OBCI# USB 2.0 EHCI# USB78 OBCI# USB90 OBCI#5 SATA, SATA2 (ICH8) SATA, SATA (ICH8) ----- shared -- shared -- -- shared -- -- shared -- -- shared ----- shared shared ----- A B ----- shared ----- shared shared ----- C ----- shared ----- shared ----- shared ----- shared ----- shared ----- shared ----- F G H 2-8 Chapter 2: Hardware information 2.5.4 PCI slots The PCI slots support cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. The figure shows a LAN card installed on a PCI slot. 2.5.5 PCI Express x1 slots This motherboard supports PCI Express x network cards, SCSI cards and other cards that comply with the PCI Express specifications. The following figure shows a network card installed on the PCI Express x slot.

2.5.6 PCI Express x16 slot This motherboard supports PCI Express x6 graphic cards that comply with the PCI Express specifications. The figure shows a graphics card installed on the PCI Express x6 slot. ASUS P5B 2-9 2.6 1. Jumper This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords. To erase the RTC RAM: .

Turn OFF the computer and unplug the power cord. 2. Remove the onboard battery. . Move the jumper cap from pins -2 (default) to pins 2-. Keep the cap on pins 2- for about 5~0 seconds, then move the cap back to pins -2. . Reinstall the battery. 5. Plug the power cord and turn ON the computer. 6. Hold down the key during the boot process and enter BIOS setup to re-enter data. Except when clearing the RTC RAM, never remove the cap on CLRRTC jumper default position. Removing the cap will cause system boot failure! Clear RTCRAM (CLRRTC) P5B CLRRTC 2 Normal (Default) 2 R Clear CMOS P5B Clear RTCRAM . You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.



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P.R. (CPU Parameter Recall) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values. Due to the chipset limitation, AC power off is required prior using C.

P.R. function. You must turn off and on the power supply or unplug and plug the power cord before reboot the system. - 2-20 Chapter 2: Hardware information 2. Set these jumpers to +5V to wake up the computer from S sleep mode (CPU stopped, DRAM refreshed, system running in low power mode) using the connected USB devices. Set to +5VSB to wake up from S and S sleep modes (no power to CPU, DRAM in slow refresh, power supply in reduced power mode). USBPW2 2 +5V (Default) P5B USBdevicewake-up(3-pinUSBPW1234,USBPW5678,USBPW910) 2 +5VSB USBPW90 2 2 R +5V (Default) +5VSB P5BUSBdeviceWakeUp USBPW5678 2 +5V (Default) 2 +5VSB . The USB device wake-up feature requires a power supply that can provide 500mA on the +5VSB lead for each USB port; otherwise, the system would not power up. The total current consumed must NOT exceed the power supply capability (+5VSB) whether under normal condition or in sleep mode. . 3.

This jumper allows you to enable or disable the keyboard wake-up feature. Set this jumper to pins 2- (+5VSB) to wake up the computer when you press a key on the keyboard (the default is the Space Bar). This feature requires an ATX power supply that can supply at least A on the +5VSB lead, and a corresponding setting in the BIOS. KBPWR P5B Keyboardpower(3-pinKBPWR) 2 +5V (Default) 2 +5VSB P5BKeyboardPowerSetting ASUS P5B 2-2 R 2.7 2.

7.1 Connectors Rearpanelconnectors 2 5 6 7 8 5 1. 2. 2 0 9 3. Parallelport.

This 25-pin port connects a parallel printer, a scanner, or other devices. LAN(RJ-45)port. Supported by Realtek® Gigabit LAN controller, this port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications. PS2mouseport(green).

This port is for a PS/2 mouse. LANportLEDindications Activity/LinkSpeedLED Status Description OFF No link ORANGE Linked BLINKING Data activity Status OFF ORANGE GREEN Description 0 Mbps connection 00 Mbps connection Gbps connection ACT/LINK SPEED LED LED LANport 4. 6. 7. 8.

5. Center/Subwooferport(orange). This port connects the center/subwoofer speakers. LineInport(lightblue). This port connects the tape, CD, DVD player, or other audio sources. RearSpeakerOutport(black). This port connects the rear speakers in a 4channel, 6channel, or 8channel audio configuration.

LineOutport(lime). This port connects a headphone or a speaker. In 4channel, 6channel, and 8channel configuration, the function of this port becomes Front Speaker Out.

Microphoneport(pink). This port connects a microphone. SideSpeakerOutport(gray). This port connects the side speakers in an 8channel audio configuration. 9.

2-22 Chapter 2: Hardware information Refer to the audio configuration table below for the function of the audio ports in 2, 4, 6, or 8channel configuration. Audio2,4,6,or8-channelconfiguration Port Light Blue Lime Pink Orange Black Gray Headset 2-channel Line In Line Out Mic In 4-channel Line In Front Speaker Out Mic In Rear Speaker Out 6-channel Line In Front Speaker Out Mic In Center/Subwoofer Rear Speaker Out 8-channel Line In Front Speaker Out Mic In Center/Subwoofer Rear Speaker Out Side Speaker Out 11. USB2.0ports1and2. These two -pin Universal Serial Bus (USB) ports are available for connecting USB 2.

0 devices. 10. USB2.0ports3and4. These two -pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices. 12. ExternalSATAport. This port connects to an external SATA box or a Serial ATA port multiplier. This port supports a Serial ATA hard disk drive that you can combine with an external Serial ATA 3.

0 Gb/s device to configure a RAID 0, RAID , or JBOD set through the onboard JMicron SATA RAID controller. The external SATA port supports external Serial ATA .0 Gb/s devices. Longer cables support higher power requirements to deliver signal up to two meters away, and enables improved hot-swap function. - Before creating a RAID set using Serial ATA hard disks, make sure that you have connected the Serial ATA signal cable and installed Serial ATA hard disk drives; otherwise, you cannot enter the JMicron RAID utility and SATA BIOS setup during POST. If you intend to create a RAID configuration using this connector, set the JMicronSATAControllerMode item in the BIOS to [RAID]. See section "4.4.5 Onboard Device Configuration" for details. - ASUS P5B 2-2 . - DO NOT insert a different connector to this port.

DO NOT unplug the external Serial ATA box when a RAID 0 or JBOD is configured. 14. CoaxialS/PDIFOutport.This port connects an external audio output device via a coaxial S/PDIF cable. 15.

PS/2keyboardport(purple). This port is for a PS/2 keyboard. 13. OpticalS/PDIFOutport. This port connects an external audio output device via an optical S/PDIF cable.

2.7.2 1. Internalconnectors This connector is for the provided floppy disk drive (FDD) signal cable. Insert one end of the cable to this connector, then connect the other end to the signal connector at the back of the floppy disk drive. Pin 5 on the connector is removed to prevent incorrect cable connection when using a FDD cable with a covered Pin 5. FLOPPY P5B R Floppydiskdriveconnector(34-1pinFLOPPY) NOTE:Orient the red markings on the floppy ribbon cable to PIN . P5BFloppyDiskDriveConnector 2-2 Chapter 2: Hardware information 2. The onboard IDE connector is for the Ultra DMA /00/66 signal cable. There are three connectors on each Ultra DMA /00/66 signal cable: blue, black, and gray.

Connect the blue connector to the motherboard's IDE connector, then select one of the following modes to configure your device. Drivejumpersetting Single device Two devices Cable-Select or Master Cable-Select Master Slave . Modeof device(s) Master Slave Master Slave Cableconnector Black Black Gray Black or gray IDEconnector(40-1pinPRI_IDE) Pin 20 on the IDE connector is removed to match the covered hole on the Ultra DMA cable connector. This prevents incorrect insertion when you connect the IDE cable. Use the 80-conductor IDE cable for Ultra DMA /00/66 IDE devices. - If any device jumper is set as "Cable-Select," make sure all other device jumpers have the same setting. R P5B PRI_IDE PIN NOTE:Orient the red markings (usually zigzag) on the ID ribbon cable to PIN . P5BIDEConnector ASUS P5B 2-25 3. These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives. SATA GND RSATA_RXN RSATA_RXP GND RSATA_TXN RSATA_TXP GND P5B ICH8SerialATAconnectors(7-pinSATA1,SATA2,SATA3,SATA4) SATA2 GND RSATA_RXN2 RSATA_RXP2 GND RSATA_TXN2 RSATA_TXP2 GND R SATA GND RSATA_RXN RSATA_RXP GND RSATA_TXN RSATA_TXP GND SATA GND RSATA_RXN RSATA_RXP GND RSATA_TXN RSATA_TXP GND P5BSATAConnectors When using the connectors in Standard IDE mode, connect the primary (boot) hard disk drive to the SATA/2 connector.



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Refer to the table below for the recommended SATA hard disk drive connections.

Serial ATA hard disk drive connection Connector Color Setting Use SATA/2 SATA/ Black Black Master Slave Boot disk Data Disk Connect the right-angle side of SATA signal cable to SATA device. Or you may connect the right-angle side of SATA cable to the onboard SATA port to avoid mechanical conflict with huge graphics cards. right angle side 2-26 Chapter 2: Hardware information 4. JMicron JMB363 Serial ATA RAID connector (7-pin SATA_RAID) This connector is for a Serial ATA signal cable. This connector supports a Serial ATA hard disk drive that you can configure for RAID through the onboard Serial ATA RAID controller.

The JMicron controller mode item in the BIOS is set to [AHCI] by default, allowing you to use the connectors to build a RAID set. See section ".5 Onboard Device Configuration" for details. R P5B SATA_RAID GND RSATA_RXN RSATA_RXP GND RSATA_TXN RSATA_TXP GND P5B SATA RAID Connector Before creating a RAID set using Serial ATA hard disks, make sure that you have connected the Serial ATA signal cables and installed Serial ATA hard disk drives; otherwise, you cannot enter the JMicron® JMB6 RAID utility and SATA BIOS setup during POST.

5. This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port(s). Connect the S/PDIF Out module cable to this connector, then install the module to a slot opening at the back of the system chassis. Digital audio connector (4-pin SPDIF_OUT) R P5B P5B Digital Audio Connector SPDIF_OUT The S/PDIF module is purchased separately. ASUS P5B +5V SPDIFOUT GND 2-27 6. These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

USB connectors (10-1pin USB56, USB78, USB910) USB90 USB+5V USB_P6 USB_P6+ GND NC USB+5V USB_P9 USB_P9+ GND R USB+5V USB_P0 USB_P0+ GND NC P5B USB+5V USB_P5 USB_P5+ GND Never connect a 9 cable to the USB connectors. Doing so will damage the motherboard!

You can connect the USB cable to ASUS Q Connector (USB, blue) first, and then install the Q-Connector (USB) to the USB connector onboard. 7. These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card. Optical drive audio connector (4-pin CD) P5B CD (black) P5B Internal Audio Connector 2-28 Right Audio Channel Ground Ground Left Audio Channel R Chapter 2: Hardware information USB+5V USB_P7 USB_P7+ GND P5B USB 2.0 Connectors USB56 USB78 USB+5V USB_P8 USB_P8+ GND NC 8. The fan connectors support cooling fans of 50 mA ~ 2000 mA (2 W max.) or a total of A ~ 7 A (8 W max.) at +2V. Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.

Do not forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors! CPU_FAN GND CPU FAN PWR CPU FAN IN CPU FAN PWM

CPU, chassis, and power fan connectors (4-pin CPU_FAN, 3-pin CHA_FAN1, 3-pin CHA_FAN2, 3-pin PWR_FAN) PWR_FAN GND +2V Rotation GND +2V Rotation GND +2V Rotation R P5B CHA_FAN CHA_FAN2 P5B Fan Connectors Only the CPU-FAN and CHA-FAN -2 connectors support the ASUS Q-FAN 2 feature. 9. This connector is for a serial (COM) port.

Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.

Serial port connector (10-1pin COM1) P5B COM PIN P5B COM Port Connector ASUS P5B R 2-29 10. Chassis intrusion connector (4-1pin CHASSIS) This connector is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced.

The signal is then generated as a chassis intrusion event. By default, the pin labeled "Chassis Signal" and "Ground" are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature. P5B CHASSIS P5B Chassis Intrusion Connector (Default) 11.

Front panel audio connector (10-1pin AAFP) This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC 97 audio standard. Connect one end of the front panel audio I/O module cable to this connector. Azalia-compliant pin definition AGND PRESENSE# MIC2_JD HP_HD P5B Legacy AC'97-compliant pin definition AGND NC NC NC R AAFP MIC2_L MIC2_R HP_R Jack_Sense HP_L MIC2_L MIC2_R Line out_R NC Line out_L P5B Front Panel Audio Connector ··· We recommend that you connect a high definition front panel audio module to this connector to avail of the motherboard's high definition audio capability. By default, this connector is set to AC'97. If you want to connect a High Definition front panel audio module to this connector, set the Front Panel Support Type item in the BIOS setup to [HD Audio]. See section .

.5 Onboard Device Configuration for details. 2-0 Chapter 2: Hardware information Chassis Signal GND R +5V VSB_MB 12.

ATX power connectors (24-pin EATXPWR, 4-pin EATX12V) These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit. EATX2V P5B EATXPWR + Volts +2

Volts +2 Volts +5V Standby Power OK Ground +5 Volts Ground +5 Volts Ground + Volts + Volts Ground +5 Volts +5 Volts -5 Volts Ground Ground Ground PSON# Ground -2 Volts + Volts +2V DC GND +2V DC GND P5B ATX Power Connector ···· For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 00 W. Do not forget to connect the -pin EATX2V power plug; otherwise, the system will not boot. Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices.

The system may become unstable or may not boot up if the power is inadequate. The ATX 12 V Specification 2.0 compliant (400W) PSU has been tested to support the motherboard power requirements with the following configuration: CPU: Intel® Pentium® Extreme .7GHz Memory: 52 MB DDR2 (x) Graphics card: ASUS EAX900XT Parallel ATA device: IDE hard disk drive Serial ATA device: SATA hard disk drive (x2) Optical drive: DVD-RW ASUS P5B R 2- 13. System panel connector (20-8pin PANEL) This connector supports several chassis-mounted functions.



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PLED PLED+ PLEDP5B SPEAKER +5V Ground Ground Speaker PA NEL IDE_LED+ IDE_LEDReset Ground PWR Ground R IDE_LED RESET PWRSW
P5BSystemPanelConnector * Requires an ATX power supply · SystempowerLED(2-pinPLED) This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.
HarddiskdriveactivityLED(2-pinIDE_LED) This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector.
The IDE LED lights up or flashes when data is read from or written to the HDD. Systemwarningspeaker(4-pinSPEAKER) This -pin connector is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings. ATXpowerbutton/soft-offbutton(2-pinPWRSW) This connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF. Resetbutton(2-pinRESET) This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power. 2-2 Chapter 2: Hardware information Q-Connector(systempanel) You can use ASUS Q-Connector to connect / disconnect chassis front panel cables by only a few steps. Directions below shows how to install ASUS QConnector. Step.

Connect correct front panel to ASUS QConnector first. You can refer to the marking on Q-Connector itself to know the detail pin definition. Step2. Properly install the ASUS Q-Connector to the System panel connector. Step. Front panel functions are enabled. ASUS P5B 2- 2- Chapter 2: Hardware information This chapter describes the power up sequence, the vocal POST messages, and ways of shutting down the system. Powering up 3 Chapter summary 3.1 3.2

Startingupforthefirsttime.

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..... 3-2 3 ASUS P5B 3.1 .

2. 3. 4. 5. Startingupforthefirsttime After making all the connections, replace the system case cover.

Connect the power cord to the power connector at the back of the system chassis. Connect the power cord to a power outlet that is equipped with a surge protector. Turn on the devices in the following order: a. c. b.

Monitor Be sure that all switches are secured. External SCSI devices (starting with the last device on the chain) System power 6. After applying power, the system power LED on the system front panel case lights up. For systems withATX power supplies, the system LED lights up when you press the ATX power button. If your monitor complies with "green" standards or if it has a "power standby" feature, the monitor LED may light up or switch between orange and green after the system LED turns on. The system then runs the power-on self tests or POST. While the tests are running, the BIOS beeps (see BIOS beep codes table below) or additional messages appear on the screen. If you do not see anything within 30 seconds from the time you turned on the power, the system may have failed a power-on test. Check the jumper settings and connections or call your retailer for assistance. AMI BIOS beep codes BeepDescription One beep Two continuous beeps followed by two short beeps Two continuous beeps followed by four short beeps Error Keyboard controller error Refresh Time error No master drive detected Floppy controller failure Hardware component failure 7.

At power on, hold down the <Delete> key to enter the BIOS Setup. Follow the instructions in Chapter 4. ASUS P5B 3- 3.2 3.2.1 . Turning off the computer UsingtheOSshutdownfunction If you are using Windows® 2000: 2. 3. Make sure that the ShutDown option button is selected, then click theOK button to shut down the computer. The power supply should turn off after Windows® shuts down.

Click the Start button then click ShutDown... If you are using Windows® XP or later version: 2. .

Click the TurnOff button to shut down the computer. Click the Start button then select TurnOff Computer. 3. The power supply should turn off after Windows® shuts down. 3.

2.2 Usingthedualfunctionpowerswitch While the system is ON, pressing the power switch for less than four seconds puts the system to sleep mode or to soft-off mode, depending on the BIOS setting. Pressing the power switch for more than four seconds lets the system enter the soft-off mode regardless of the BIOS setting. Refer to section "4.5 Power Menu" in Chapter 4 for details. 3-2 Chapter 3: Powering up This chapter tells how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided. BIOS setup 4 Chapter summary 4.1 4.2 4.

3 ManagingandupdatingyourBIOS.....

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4-1 BIOSsetupprogram.....

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.. 4-10 Mainmenu.....

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4-13 4 4.4 4.5 4.6 4.7 Advancedmenu.

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... 4-17 Powermenu.....

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.... 4-26 Bootmenu.....

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.. 4-30 Toolsmenu...

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..... 4-34 Exitmenu.

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.... 4-36 4.8 ASUS P5B 4.1 Managing and updating your BIOS The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup. . 2. 3.

4. ASUSEZFlash2 (Updates the BIOS using a floppy disk, USB Flash, or the motherboard support CD during POST.) ASUSAFUDOS (Updates the BIOS in DOS mode using a bootable floppy disk.) ASUSCrashFreeBIOS3 (Updates the BIOS using a bootable floppy, USB Flash disk, or the motherboard support CD when the BIOS file fails or gets corrupted.) ASUSUpdate (Updates the BIOS in Windows® environment.

) Refer to the corresponding sections for details on these utilities. Save a copy of the original motherboard BIOS file to a bootable floppy disk or a USB flash disk in case you need to restore the BIOS in the future. @@@@DOS environment b. At the DOS prompt, type format A:/S then press <Enter>. Windows® XP environment a.

Insert a 1.44 MB floppy disk to the floppy disk drive. b. @@Select the 3 1/2 Floppy Drive icon. e. @@Windows® 2000 environment a. Insert a formatted, high density 1.44 MB floppy disk into the drive. c. Click.

Start, then select Run. d. From the Open field, type b. Insert the Windows® 2000 CD to the optical drive. To create a set of boot disks for Windows® 2000: d. ClickFile from the menu, then select Format. A Format31/2Floppy Diskwindow appears. D:\bootdisk\makeboot a: e. @@@@To update the BIOS using EZ Flash 2: 1. 2.

3. @@You can launch the EZ Flash 2 by two methods. @@@@Then press <Enter>. 4. When the correct BIOS file is found, EZ Flash 2 performs the BIOS update process and automatically reboots the system when done.

· · This function can support devices such as USB flash disk, or floppy disk with FAT32/16format only. Do not shut down or reset the system while updating the BIOS to prevent system boot failure! 4-2 Chapter 2: BIOS setup · · Do not shut down or reset the system while updating the BIOS to prevent system boot failure! This function can support devices such as USB flash disk, or floppy disk with FAT32/16format only.



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4.1.3 AFUDOS utility The AFUDOS utility allows you to update the BIOS file in DOS environment using a bootable floppy disk with the updated BIOS file. This utility also allows you to copy the current BIOS file that you can use as backup when the BIOS fails or gets corrupted during the updating process. Copying the current BIOS To copy the current BIOS file using the AFUDOS utility: · Make sure that the floppy disk is not writeprotected and has at least 1024KB free space to save the file. The succeeding BIOS screens are for reference only. The actual BIOS screen displays may not be same as shown. · 2. Copy the AFUDOS utility (afudos.exe) from the motherboard support CD to the bootable floppy disk you created earlier. Boot the system in DOS mode, then at the prompt type: afudos /o[filename] where the [filename] is any userassigned filename not more than eight alphanumeric characters for the main filename and three alphanumeric characters for the extension name. A:\>afudos /oOLDBIOS1.

rom Mainfilename Extensionname 3. Press <Enter>. The utility copies the current BIOS file to the floppy disk. A:\>afudos /oOLDBIOS1.rom AMI Firmware Update Utility - Version 1.19(ASUS V2.07(03.11.24BB)) Copyright (C) 2002 American Megatrends, Inc. All rights reserved.

Reading flash
done Write to file.....

. ok A:\> The utility returns to the DOS prompt after copying the current BIOS file. ASUS P5B 4-3 Updating the BIOS file 1. To update the BIOS file using the AFUDOS utility: Visit the ASUS website (www.asus.com) and download the latest BIOS file for the motherboard. Save the BIOS file to a bootable floppy disk. Write the BIOS filename on a piece of paper. You need to type the exact BIOS filename at the DOS prompt. 2.

3. Copy the AFUDOS utility (afudos.exe) from the motherboard support CD to the bootable floppy disk you created earlier. @@All rights reserved.

WARNING!! Do not turn off power during flash BIOS Reading file

. done Reading flash
.. done Advance Check ...

... Erasing flash @@@@All rights reserved.

WARNING!! Do not turn off power during flash BIOS Reading file done Reading flash ...

... done Advance Check ..
.... Erasing flash .
..... done Writing flash

. done Verifying flash @@@@@2. 3. 4. Turn on the system. Insert the USB flash disk that contains BIOS file to the USB port.

@@@@The device size should be smaller than 8GB. DO NOT shut down or reset the system while updating the BIOS! @2. 3. @@@@Starting BIOS recovery..

. @@@Starting BIOS recovery... Checking for floppy.

.. Floppy found! Reading file "P5B.ROM". Completed. @@@@2. 3. @@@@Insert the support CD to the optical drive. Bad BIOS checksum. Starting BIOS recovery.

.. @@@The utility then updates the corrupted BIOS file. Bad BIOS checksum. Starting BIOS recovery... Checking for floppy...

Floppy not found! Checking for CD-ROM... CD-ROM found! Reading file "P5B.ROM".

Completed. @@@@@. Place the support CD in the optical drive. The Drivers menu appears. 3.

Click the Utilities tab, then click InstallASUSUpdate. See page 5-3 for the Utilities screen menu. The ASUS Update utility is copied to your system. Quit all Windows® applications before you update the BIOS using this utility. ASUS P5B 4-7 UpdatingtheBIOSthroughtheInternet To update the BIOS through the Internet: · Launch the ASUS Update utility from the Windows® desktop by clicking Start. >Programs>ASUS>ASUSUpdate>ASUSUpdate. The ASUS Update main window appears. 2. Select UpdateBIOSfrom theInternet option from the drop-down menu, then click Next.

3. Select the ASUS FTP site nearest you to avoid network traffic, or clickAutoSelect. ClickNext. 4-8 Chapter 2: BIOS setup 4. 5. From the FTP site, select the BIOS version that you wish to download. Click Next. Follow the screen instructions to complete the update process. The ASUS Update utility is capable of updating itself through the Internet. Always update the utility to avail all its features.

Updating the BIOS through a BIOS file To update the BIOS through a BIOS file: · 2. Launch the ASUS Update utility from the Windows® desktop by clicking Start > Programs > ASUS > ASUSUpdate > ASUSUpdate. The ASUS Update main window appears. Select Update BIOS from a file option from the drop-down menu, then click Next.

3. 4. Locate the BIOS file from the Open window, then click Open. Follow the screen instructions to complete the update process. ASUS P5B 4- 4.

2 BIOS setup program This motherboard supports a programmable firmware chip that you can update using the provided utility described in section "4. Managing and updating your BIOS." Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility. Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the SPI chip. The firmware chip on the motherboard stores the Setup utility. @@@@· Press <Ctrl>+<Alt>+ simultaneously.

@@@@Select the Load Setup Defaults item under the Exit Menu.

@@@@Profile. For changing the advanced system settings The menu bar on top of the screen has the following main items: Advanced Power Boot Exit Tools For selecting the exit options and loading default settings To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted. 4.2.3 Navigationkeys At the bottom right corner of a menu screen are the navigation keys for that particular menu. Use the navigation keys to select items in the menu and change the settings. Some of the navigation keys differ from one screen to another. ASUS P5B 4- 4.2.4

Menuitems System Time System Date Legacy Diskette A Legacy Diskette B Primary IDE Master Primary IDE Slave Secondary IDE Master Secondary IDE Slave Third IDE Master Fourth IDE Master IDE Configuration System Information [11:10:19] [Thu 03/27/2003] [1.

44M, 3.5 in] [Disabled] :[Not :[Not :[Not :[Not :[Not :[Not Detected] Detected] Detected] Detected] Detected] Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system time. The highlighted item on the menu bar displays the specific items for that menu. For example, selecting Main shows the Main menu items.

The other items (Advanced, Power, Boot, Tool, and Exit) on the menu bar have their respective menu items. +Tab F1 F10 ESC Select Screen Select Item

Change Field Select Field General Help Save and Exit Exit 4.2.5. Sub-menutems Main menu items A solid triangle before each item on any menu screen means that the iteam has a sub-menu.



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