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You can read the recommendations in the user guide, the technical guide or the installation guide for ASUS P5K-VM. You'll find the answers to all your questions on the ASUS P5K-VM in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual ASUS P5K-VM
User guide ASUS P5K-VM
Operating instructions ASUS P5K-VM
Instructions for use ASUS P5K-VM
Instruction manual ASUS P5K-VM

P5K-VM

ASUS

Motherboard



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Manual abstract:

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.....
.....
.. vi Safety information

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

.....
.....
.. @x Chapter1: 1.1 1.2 1.

3 Welcome! @@@@ @1-3 1.3.1 1.3.2 1.3.3 1.3.4 Product highlights ..

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

..... 1-3 ASUS AI Lifestyle features ...

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

... 1-5 ASUS Stylish features..

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

..... 1-6 ASUS Intelligent Overclocking features

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

.. 1-6 Product introduction 1.4 1.5 Before you proceed

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

... 1-7 Motherboard overview ..

.....
.....

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

.....
.....

... 1-8 1.5.

1 1.5.2 1.5.3 1.6.1 1.6.2 1.6.

3 1.7.1 1.7.2 1.7.3 1.7.4 1.8.

1 1.8.2 1.8.3 1.

8.4 1.8.5 1.8.

6 Placement direction

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

.....
.....

. 1-8 Screw holes

.....

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

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

.... 1-8 Motherboard layout

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

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

. 1-9 Installing the CPU

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

.....
.....

....1-11 Installing the CPU heatsink and fan .

.....

.....
.....

.... 1-13 Uninstalling the CPU heatsink and fan .

.....

.....

.... 1-15 Overview .

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... 1-17 Memory configurations.....

.....

.....

.....

.....

.....

.....

1-18 Installing a DIMM

.....

.....

.....

.....

.....

.....

... 1-22 Removing a DIMM ..

.....

.....

.....

.....

.....

.....

..... 1-22 Installing an expansion card .

.....

.....

.....

.....

.....

.....

1-23 Configuring an expansion card

.....

.....

.....

..... 1-23 Interrupt assignments ...

.....

.....

.....

.....

.....

.....

... 1-24 PCI slots..

.....

.....

.....

.....

.....

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

1-25 PCI Express x4 slot.....

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

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

..... 1-25 PCI Express x16 slot.....

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

.....
.....

... 1-25 1.6 Central Processing Unit (CPU).

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

..... 1-10 1.7 System memory .

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

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

.. 1-17 1.8 Expansion slots.....

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

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

..... 1-23 1.9 1.10 Jumper .

. 1-26 Connectors

.....
.....

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

.....
.....

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

..... 2-7 ASUS CrashFree BIOS 3 utility

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

.....
.... 2-9 BIOS menu screen.

.....
.....

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

.....
.2-11 Menu bar

.....
.....

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

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

...2-11 Navigation keys.....

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

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

.....2-11 Menu items

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

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

.. 2-12 Sub-menu items

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

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

.. 2-12 Configuration fields

.....
.....
.....
... 2-26 Suspend Mode [Auto]

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

.....
.... 2-27 Repost Video on S3 Resume [Disabled] .
.....
.....

..... 2-27 Legacy Diskette A [1.44M, 3.5 in.
].....
.....
.....

.....
... 2-13 BIOS setup program ..

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

.....
.... 2-10 Main menu .

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

.....
. 2-13 Advanced menu

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

.....
.... 2-17 Power menu

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

.....
... 2-33 *ASUS EZ Flash 2* ..

.....
.....

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

.....
. 2-35 *AI Net 2*

.....
.....

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

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

.... 2-36 *Boot menu*

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

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

.....
.....
. 2-31 *Tools menu*

.....
.....

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

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

..... 2-35 2.8 3.1 3.
2 *Exit menu*

.....
.....

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

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

.... 2-37 *Installing an operating system*

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

..... 3-2 Support CD information

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

..... 3-2 3.2.1 3.

2.2 3.2.3 3.2.4 3.2.5 3.2.6 Running the support CD .

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

..... 3-2 Drivers menu..

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

..... 3-3 Utilities menu

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

.. 3-4 Manual menu

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

.. 3-6 ASUS Contact information ...

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

.....
... 3-6 Other information

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

... 3-7 Chapter 3: Software support v 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 instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: · · · Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver. Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help. The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. This class B digital apparatus complies with Canadian ICES-003. vi Safety information Electrical safety · · To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system. When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged. Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit. · · · Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company * The chipset officially supports the memory frequency up to DDR2 800MHz. Tuned by the ASUS Super Memspeed Technology, this motherboard natively supports up to DDR2 1066MHz. Refer to www.asus.com or this user manual for the Memory QVL (Qualified Vendors Lists). Intel® Graphics Media Accelerator X3000 integrated High-definition video processing with a maximum resolution of 2084 x 1536 bpp @ 75 Hz Maximum shared memory of 256 MB Supports Microsoft® DirectX®9, OpenGL®1.

5, Pixel Shader 3.0 1 x PCI Express™ x16 slot 1 x PCI Express™ x4 slot 2 x PCI slots Southbridge - 4 x Serial ATA 3.0 Gb/s ports JMicron® JMB368 PATA and SATA controller supports: - 1 x UltraDMA 133/100/66 for up to 2 PATA devices Marvell88E8056® PCI-E Gigabit LAN controller PCIe Gb LAN controller featuring AI NET2 Realtek® ALC883 8-channel High-Definition Audio CODEC - Supports Jack-Sensing, Enumeration, Multi-Streaming - Coaxial S/PDIF out port at back I/O - ASUS Noise Filter VIA controller supports 2 x IEEE 1394a ports (one at midboard; one at back panel) 12 x USB 2.



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0 ports (6 at mid-board, 6 at back panel) (continued on the next page) Chipset System bus Memory VGA Expansion slots Storage LAN Audio IEEE 1394 USB x P5K-VM specifications summary AI Lifestyle Unique features ur gaming and multimedia experience with the integrated graphics engine Intel® Graphics Media Accelerator X3000. It supports 1333 FSB (Front Side Bus), and delivers breakthrough advances in 3D and 2D graphics as well as video capabilities. This integrated chipset is able to meet the changing display requirements of visually rich applications. It features the Intel® Clear Video Technology, which supports crisp imaging, accurate color control, and High-Definition video processing with a maximum resolution of 2084 x 1536 bpp @ 75 Hz and a maximum shared memory of 512 MB. DDR2 memory support The motherboard supports DDR2 memory that features data transfer rates of 800/667 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.

Furthermore, this motherboard does not restrict the memory size across two channels. Users may install different memory size DIMMs into the two channels and enjoy dual-channel and single-channel functions at the same time. This new feature optimizes the use of available memory size. See page 1-17 for details. ASUS P5K-VM 1-3 Native DDR2 1066 memory support To attain top performance, ASUS engineers have successfully unleashed the true potential of DDR2 memory.

While in DDR2 1066 mode, ASUS's exclusive technology offers a choice of FSB 1333, providing great performance for 3D graphics and other memory demanding applications. See page 1-17 for details. ASUS Super Memspeed Technology To attain top performance, ASUS has managed to break through current FSB and DRAM ratio proportions by utilizing Super Memspeed Technology the latest technology that provides even more precise overclocking options to unleash the true potential of DDR2 memory. The DDR2 Mode maximizes system performance by eliminating the bottleneck when overclocking both the CPU and memory providing great performance for 3D graphics and other memory demanding applications. See page 1-17 for details.

Serial ATA 3.0 Gb/s technology 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. See page 1-32 for details. IEEE 1394a support The IEEE 1394a interface provides high speed digital interface for audio/video appliances such as digital television, digital video camcorders, storage peripherals & other PC portable devices. See page 1-28 and 1-34 for details. 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) jacks. It allows to transfer digital audio without converting to analog format and keeps the best signal quality. See pages 1-29 for details. High Definition Audio Enjoy high-end sound quality on your PC!

The onboard 8-channel High Definition Audio CODEC enables high-quality 192KHz/24-bit audio output, jack-sensing feature, 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 1-28 and 1-29 for details. 1-4 Chapter 1: Product Introduction 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 Gear2 AI Gear2 allows you to choose profiles to adjust the CPU frequency and Vcore voltage to minimize system noise and power consumption. You can change the mode in real-time in the operating system to max power saving mode and save up to 50% power when using word processing applications. 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. Q-Fan ASUS Q-Fan technology intelligently adjusts both CPU fan and chassis fan speeds according to system loading to ensure quiet, cool and efficient operation. ASUS Crystal Sound This feature can enhance speech-centric applications like Skype, online game, 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. See page 1-33, 1-34, and 1-39 for details.

ASUS P5K-VM 1-5 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 2-9 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 2-6 for details.

1.3.3 ASUS Stylish 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 2-32 for details. AI NET 2 AI NET 2 is a BIOS-based diagnostic tool that detects and reports Ethernet cable faults and shorts. With this utility, you can easily monitor the condition of the Ethernet cable(s) connected to the Marvell® LAN (RJ-45) port. During the bootup process, AI NET 2 immediately diagnoses the LAN cable and reports shorts and faults up to 100 meters at 1 meter accuracy. See page 2-36 for details. Smart Support CD It provides a checklist to allow the user to see which drivers are already installed, as well as those that aren't.

When using ASUS PC Probe II, you can easily see the critical parts of the computer. 1.3.4 ASUS Intelligent Overclocking features 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. When the system hangs due to overclocking, C.P.R. eliminates the need to open the system chassis and clear the RTC data.



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Simply shut down and reboot the system, and the BIOS automatically restores the CPU default setting for each parameter.

See page 1-26 for details. 1-6 Chapter 1: Product Introduction 1.4 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. · · · Onboard LED 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. ® P5K-VM SB_PWR P5K-VM Onboard LED ON Standby Power OFF Powered Off ASUS P5K-VM 1-7 1.5 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. 1.5.1 Placement direction 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.

1.5.2 Screw holes Place eight (8) 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 ® 1-8 Chapter 1: Product introduction P5K-VM 1.

5.3 KB_USB56 Motherboard layout 24.4cm (9.6in) CPU_FAN CHA_FAN1 KBPWR SPDIF PARALLEL PORT USBPW5-8 LGA775 DDR2 DIMM_A1 (64 bit,240-pin module) DDR2 DIMM_A2 (64 bit,240-pin module) VGA F_USB34 PWR_FAN DDR2 DIMM_B1 (64 bit,240-pin module) DDR2 DIMM_B2 (64 bit,240-pin module) P5K-VM Super I/O ATX12V 88E8056 ASM4131 PCIEX16_1 VIA VT6308S PCI1 SB_PWR COM1 PCI2 SPDIF_OUT ALC883 CD Intel ICH9 JMicron JMB368 BIOS USBPW9-12 USB1112 ® SATA2 SATA1 SATA3 USB78 CLRTC CHASSIS PCIEX4_1 IEI394_2 CR2032 3V Lithium Cell CMOS Power SATA4 PANEL USB910 PRI_EIDE AAFP Refer to 1.10 Connectors for more information about rear panel connectors and internal connectors.

ASUS P5K-VM FLOPPY AUDIO EATXPWR LAN1_USB12 ® USBPW1-4 Intel® MCH G33 24.4cm (9.6in) 1-9 1.6 Central Processing Unit (CPU) The motherboard comes with a surface mount LGA775 socket designed for the Intel® Core™2 Quad / Intel® Core™2 Extreme / Core™2 Duo / Pentium® Extreme / Pentium® D/ Pentium® 4 processors. · · Make sure that all power cables are unplugged before installing the CPU.

Connect the chassis fan cable to the CHA_FAN1 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. · · · 1-10 Chapter 1: Product introduction 1.6.1 1.

Installing the CPU To install a CPU: Locate the CPU socket on the motherboard. P5K-VM CPU Socket 775 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. Retention tab Load lever ® P5K-VM A PnP cap B This side of the socket box should face you. To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU. 3. Lift the load lever in the direction of the arrow to a 135° angle. ASUS P5K-VM 1-11 4. 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 Load plate Alignment key 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_FAN1 connector to ensure system stability. B The motherboard supports Intel® LGA775 processors with the Intel® Enhanced Memory 64 Technology (EM64T), Enhanced Intel SpeedStep® Technology (EIST), and Hyper-Threading Technology. 1-12 Chapter 1: Product introduction 1.6.

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 multi-directional 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: 1.



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This prevents incorrect insertion when you connect the IDE cable. Use the 80-conductor IDE cable for Ultra DMA 133/100/66 IDE devices. · If any device jumper is set as "Cable-Select," make sure all other device jumpers have the same setting. ® P5K-VM PRI_EIDE PIN 1 P5K-VM IDE connector NOTE:

Orient the red markings (usually zigzag) on the IDE ribbon cable to PIN 1.

ASUS P5K-VM 1-31 3. ICH9 Serial ATA connectors (7-pin SATA1 [red], SATA2 [black], SATA3 [red], SATA4 [black]) These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives. P5K-VM GND RSATA_TXP2 RSATA_TXN2 GND RSATA_RXP2 RSATA_RXN2 GND GND RSATA_TXP1 RSATA_TXN1 GND RSATA_RXP1 RSATA_RXN1 GND ® SATA2 SATA4 GND RSATA_RXN4 RSATA_RXP4 GND RSATA_TXN4 RSATA_TXP4 GND GND RSATA_RXN3 RSATA_RXP3 GND RSATA_TXN3 RSATA_TXP3 GND SATA1 SATA3 P5K-VM SATA connectors 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 1-32 Chapter 1: Product introduction 4.

This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port(s). @@@@Doing so will damage the motherboard! @@The USB module cable is purchased separately. @@@@Doing so will damage the motherboard! @@@@These are not jumpers! @@@@The signal is then generated as a chassis intrusion event. @@@@By default, this connector is set to [HD Audio]. See section 2.

4.5 Onboard Devices Configuration for details. Chapter 1: Product introduction 1-36 +5VSB_MB 12. @@@@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 3.73GHz Memory: 512 MB DDR2 (x4) Graphics card: ASUS EAX1900XT Parallel ATA device: IDE hard disk drive Serial ATA device: SATA hard disk drive (x2) Optical drive: DVD-RW If you want to use two high-end PCI Express x16 cards, use a PSU with 500W to 600W power or above to ensure the system stability. · ASUS P5K-VM ® 1-37 13. System panel connector (20-8 pin PANEL) This connector supports several chassis-mounted functions.

PLED PLED+ PLED- P5K-VM SPEAKER +5V Ground Ground Speaker PANEL IDE_LED+ IDE_LEDReset Ground PWR Ground ® IDE_LED RESET PWRSW P5K-VM System panel connector * Requires an ATX power supply. · System power LED (2-pin PLED) 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. Hard disk drive activity LED (2-pin IDE_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. System warning speaker (4-pin SPEAKER) This 4-pin connector is for the chassis-mounted system warning speaker. The speaker allows you to hear system beeps and warnings. ATX power button/soft-off button (2-pin PWRSW) 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. Reset button (2-pin RESET) This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power. . . . 1-38 Chapter 1: Product introduction Q-Connector (system panel) 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.

Step1. 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.

Step3. Front panel functions are enabled. ASUS P5K-VM 1-39 1-40 Chapter 1: Product introduction 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 2 2.1 Managing and updating your BIOS The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup. 2. 1. 3. ASUS Update (Updates the BIOS in Windows® environment.

) ASUS EZ Flash 2 (Updates the BIOS using a floppy disk or USB flash disk.) ASUS AFUDOS (Updates the BIOS using a bootable floppy disk.) ASUS CrashFree BIOS 3 (Updates the BIOS using a bootable floppy disk, USB flash disk or the motherboard support CD when the BIOS file fails or gets corrupted.) 4. 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 USB flash disk in case you need to restore the BIOS in the future. @@@@3. 2. Place the support CD in the optical drive. The Drivers menu appears.

The ASUS Update utility is copied to your system. @@@@Click Next. ASUS P5K-VM 2-3 4. @@Click Next. @@@@2.

@@The ASUS Update main window appears. @@4. Locate the BIOS file from the Open window, then click Open. Follow the screen instructions to complete the update process. P5K-VM.

rom P5K-VM 2-4 Chapter 2: BIOS setup 2.1.2 1. Creating a bootable floppy disk Do either one of the following to create a bootable floppy disk. DOS environment a. Insert a 1.44MB floppy disk into the drive. 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. Click Start from the Windows® desktop, then select My Computer. c. Select the 3 1/2 Floppy Drive icon. d. Click File from the menu, then select Format. A Format 3 1/2 Floppy Disk window appears. e.

Select Create an MS-DOS startup disk from the format options field, then click Start. 2. Copy the original or the latest motherboard BIOS file to the bootable floppy disk. ASUS P5K-VM 2-5 2.1.

3 ASUS EZ Flash 2 utility The ASUS EZ Flash 2 feature allows you to update the BIOS without having to go through the long process of booting from a floppy disk and using a DOS-based utility. The EZ Flash 2 utility is built-in the BIOS chip so it is accessible by pressing <Alt> + <F2> during the Power-On Self Tests (POST). To update the BIOS using EZ Flash 2: 1. 2. 3.

Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard. Save the BIOS file to a floppy disk or a USB flash disk, then restart the system.



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You can launch the EZ Flash 2 by two methods. (1) Insert the floppy disk / USB flash disk that contains the BIOS file to the floppy disk drive or the USB port. Press <Alt> + <F2> during POST to display the following. ASUSTek EZ Flash 2 BIOS ROM Utility V3.05 FLASH TYPE: ST M25P80 Current ROM BOARD: P5K-VM VER: 0115 DATE: 05/03/07 PATH: C:\A: C: Update ROM BOARD: Unknown VER: Unknown DATE: Unknown Note [Enter] Select or Load [Tab] Switch [B] Backup [ESC] Exit [Up/Down/Home/End] Move (2) Enter BIOS setup program. Go to the Tools menu to select EZ Flash2 and press <Enter> to enable it.

You can switch between drives by pressing <Tab> before the correct file is found. 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 FAT 32/16 format and single partition only. Do not shut down or reset the system while updating the BIOS to prevent system boot failure! 2-6 Chapter 2: BIOS setup 2.1.4 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 write-protected 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. 1. 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 user-assigned filename not more than eight alphanumeric characters for the main filename and three alphanumeric characters for the extension name. A:\>afudos /oOLDBIOS1.rom Main filename Extension name 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.

Updating the BIOS file To update the BIOS file using the AFUDOS utility: 1. 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.

ASUS P5K-VM 2-7 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. Boot the system in DOS mode, then at the prompt type: afudos /i[filename] where [filename] is the latest or the original BIOS file on the bootable floppy disk. A:\>afudos /iP5K-VM.ROM 4. The utility verifies the file and starts updating the BIOS. A:\>afudos /iP5K-VM.ROM AMI Firmware Update Utility - Version 1.19(ASUS V2.07(03.11.

24BB)) Copyright (C) 2002 American Megatrends, Inc. 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 ...

... 0x0008CC00 (9%) Do not shut down or reset the system while updating the BIOS to prevent system boot failure! 5. The utility returns to the DOS prompt after the BIOS update process is completed. Reboot the system from the hard disk drive. A:\>afudos /iP5K-VM.ROM AMI Firmware Update Utility - Version 1.19(ASUS V2.07(03.

11.24BB)) Copyright (C) 2002 American Megatrends, Inc. 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 .

... done Please restart your computer A:\> 2-8 Chapter 2: BIOS setup 2.1.

5 ASUS CrashFree BIOS 3 utility The ASUS CrashFree BIOS 3 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can update a corrupted BIOS file using the motherboard support CD, the floppy disk, or the USB flash disk that contains the updated BIOS file. · Prepare the motherboard support CD, the floppy disk or the USB flash disk containing the updated motherboard BIOS before using this utility. If you use a SATA optical drive, always connect the SATA cable to the SATA1/SATA2 connector; otherwise, the utility will not function. Recovering the BIOS from the support CD To recover the BIOS from the support CD: 1. 2. 3. Turn on the system. Insert the motherboard support CD to the optical drive. The utility displays the following message and automatically checks the CD for the BIOS file.

Bad BIOS checksum. Starting BIOS recovery... Checking for floppy... When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file. Bad BIOS checksum. Starting BIOS recovery.

.. Checking for floppy...

Floppy found! Reading file "P5K-VM.ROM". Completed. Start flashing..

· 4. Restart the system after the utility completes the updating process. Recovering the BIOS from the USB flash disk To recover the BIOS from the USB flash disk: 1. 2. 3. 4. Insert the USB flash disk that contains BIOS file to the USB port. The utility will automatically checks the devices for the BIOS file When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file. Restart the system after the utility completes the updating process.

· Only the USB flash disk with FAT 32/16 format and single partition can support ASUS CrashFree BIOS 3. The device size should be smaller than 8GB. DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure! 2-9 Turn on the system. · ASUS P5K-VM 2.2 BIOS setup program This motherboard supports a programmable Serial Peripheral Interface (SPI) chip that you can update using the provided utility described in section "4.1 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 SPI chip on the motherboard stores the Setup utility.



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When you start up the computer, the system provides you with the opportunity to run this program. Press during the Power-On Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines. If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis.

You can also restart by turning the system off and then back on. Do this last option only if the first two failed. The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys. The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance.

If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the Load Setup Defaults item under the Exit Menu. See section 2.8 Exit Menu. The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen. Visit the ASUS website (www.asus.com) to download the latest BIOS file for this motherboard. · · 2-10 Chapter 2: BIOS setup 2.2.

1 Menu items Main BIOS menu screen Menu bar Power Configuration fields BIOS SETUP UTILITY Boot Tools Exit [10:55:25] [Wed 05/10/2007] [1.44M, 3.5 in] [WDC [Not [Not [Not [Not [Not WD800JD-00LSA0] Detected] Detected] Detected] Detected] Detected] General help Advanced System Time System Date Legacy Diskette A SATA SATA SATA SATA PATA PATA 1 2 3 4 Primary Master Primary Slave Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.

Use [+] or [-] to configure system Time. IDE Configuration System Information +Tab F1 F10 ESC Select Screen Select Item Change Field Select Field General Help Save and Exit Exit v02.58 (C)Copyright 1985-2007, American Megatrends, Inc. Sub-menu items Navigation keys 2.2.2 Main Menu bar For changing the basic system configuration For changing the advanced power management (APM) configuration For changing the system boot configuration For Configuring options for special functions 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.

2.2.3 Navigation keys 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 P5K-VM 2-11 2.2.4 Menu items System Time System Date Legacy Diskette A SATA SATA SATA SATA PATA PATA 1 2 3 4 Primary Master Primary Slave [06:22:54] [Fri 03/09/2007] [1.44M, 3.5 in] [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, and Exit) on the menu bar have their respective menu items. IDE Configuration System Information 2.2.5 Sub-menu items Main menu items A solid triangle before each item on any menu screen means that the item has a sub-menu. To display the sub-menu, select the item and press <Enter>. 2.2.

6 Configuration fields These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable. A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to "4.2.7 Pop-up window." 2.2.

7 Pop-up window Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item. 2.2.8 Scroll bar A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the Up/Down arrow keys or <Page Up> /<Page Down> keys to display the other items on the screen.

2.2.9 General help Pop-up window Scroll bar At the top right corner of the menu screen is a brief description of the selected item. 2-12 Chapter 2: BIOS setup 2.3 Main menu When you enter the BIOS Setup program, the Main menu screen appears, giving you an overview of the basic system information.

Refer to section 2.2.1 BIOS menu screen for information on the menu screen items and how to navigate through them. Main Advanced Power BIOS SETUP UTILITY Boot Tools Exit [10:55:25] [Wed 05/10/2007] [1.44M, 3.5 in] [WDC [Not [Not [Not [Not [Not WD800JD-00LSA0] Detected] Detected] Detected] Detected] Detected] Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system Time. System Time System Date Legacy Diskette A SATA SATA SATA SATA PATA PATA 1 2 3 4 Primary Master Primary Slave IDE Configuration System Information +Tab F1 F10 ESC Select Screen Select Item Change Field Select Field General Help Save and Exit Exit v02.58 (C)Copyright 1985-2007, American Megatrends, Inc. 2.

3.1 2.3.2 2.3.3 System Time [xx:xx:xx] System Date [Day xx/xx/xxxx] Legacy Diskette A [1.44M, 3.5 in.] Allows you to set the system time. Allows you to set the system date.

Sets the type of floppy drive installed. Configuration options: [Disabled] [720K, 3.5 in.] [1.44M, 3.

5 in.] ASUS P5K-VM 2-13 2.3.4 SATA 1~4; PATA Primary Master/Slave While entering Setup, the BIOS automatically detects the presence of IDE devices. There is a separate sub-menu for each IDE device.

Select a device item then press <Enter> to display the IDE device information. Main BIOS SETUP UTILITY Select the type of device connected to the system. SATA 1 Device : Hard Disk Vendor : WDC WD800JD-00LSA0 Size : 80.0GB LBA Mode : Supported Block Mode : 16 Sectors PIO Mode :4 Async DMA : MultiWord DMA-2 Ultra DMA : Ultra DMA-5 SMART Monitoring: Supported Type LBA/Large Mode Block(Multi-sector Transfer) PIO Mode DMA Mode SMART Monitoring 32Bit Data Transfer [Auto] [Auto] [Auto] [Auto] [Auto] [Auto] [Enabled] +F1 F10 ESC Select Screen Select Item Change Option General Help Save and Exit Exit v02.58 (C)Copyright 1985-2007, American Megatrends, Inc. The BIOS automatically detects the values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART monitoring). These values are not user-configurable. These items show N/A if no IDE device is installed in the system.



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