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User manual ASUS P5PL2-E
User guide ASUS P5PL2-E
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P5PL2-E

ASUS

Motherboard



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Manual abstract:

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... A-3 Using the Hyper-Threading Technology

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.... A-3 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 64T/ EIST/Hyper-Threading Technology Supports Intel® 04B/04A and 05B/05A processor Northbridge: Intel® MCH 945 Southbridge: Intel® ICH7 1066/800/533 MHz Dual-channel memory architecture 4 x 240-pin DIMM sockets support unbuffered non-ECC DDR2 400/533 memory modules Supports up to 2 GB system memory (Note: Each channel supports two banks only).



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) 1 x PCI-E x16 slot for discrete graphic card 2 x PCI-E x1 slots 3 x PCI slots Intel® ICH7 South Bridge supports: - 1 x Ultra DMA 100/66/33 - 4 x Serial ATA 3Gb/s devices ADI 1986A 6-channel audio Supports Jack Sensing and Enumeration Technology S/PDIF out interface Supports up to 8 USB 2.0/USB 1.1 ports RTL8111B 1000/100/10 Ethernet LAN ASUS C.P.

R. (CPU Parameter Recall) Adjustable CPU voltage at 0.0125 V increment SFS (Stepless Frequency Selection) from 200 MHz up to 450 MHz at 1MHz increment 4-Step DRAM voltage control ASUS CrashFree BIOS 2 ASUS MyLogo 4 Mb FlaMAX Digital Audio System can output 5.1 channel surround sound and features state-of-the-art DLS2 MIDI synthesizer with Yamaha DLSbyXG sound set, 5.1 Virtual Theater™ and supports and major game audio technologies including Microsoft DirectXTM 8.0, Microsoft DirectSound 3D, A3D, MacroFX, ZoomFX, MultiDrive 5.1, A3D and EAX. See pages 2-21 to 2-22 for details. Serial ATA technology The motherboard supports the Serial ATA technology through the Serial ATA interfaces. The SATA specification allows for thinner, more flexible cables with lower pin count, reduced voltage requirement, and up to 300 MB/s data transfer rate.

See pages 2-24 for details. 1-2 Chapter 1: Product introduction S/PDIF-out on Back I/O Port This motherboard provides convenient connectivity to external home theater audio systems via an 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 2-22 for details. PCI Express™ interface The motherboard fully supports PCI Express, the latest I/O interconnect technology that speeds up the PCI bus.

PCI Express features point-to-point serial interconnections between devices and allows higher clockspeeds by carrying data in packets. This high speed interface is software compatible with existing PCI specifications. See page 2-18 for details. ASUS CPU Lock Free This feature allows you to adjust the CPU multiplier to 14x. Setting the appropriate BIOS setting automatically reduces the CPU multiplier value for more flexibility when increasing external FSB.

1.3.2 Innovative ASUS 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. Simply shut down and reboot the system, and the BIOS automatically restores the CPU default setting for each parameter. CrashFree BIOS 2 This feature allows you to restore the original BIOS data from the support CD in case when the BIOS codes and data are corrupted. This protection eliminates the need to buy a replacement ROM chip. See page 4-5 for details. ASUS Q-Fan technology

The ASUS Q-Fan technology smartly adjusts the fan speeds according to the system loading to ensure quiet, cool, and efficient operation. See page 4-34 for details. ASUS MyLogo™ This new feature present in the motherboard allows you to personalize and add style to your system with customizable boot logos. See page 5-8 for details. ASUS P5PL2-E 1-3 1-4 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

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.. 2-21 ASUS P5PL2-E 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 to 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. The green LED 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. P5PL2-E SB_PWR ON Standby Power OFF Powered Off P5PL2-E Onboard LED ASUS P5PL2-E 2-1 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 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. 2.2.2 Screw holes 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 P5PL2-E 2.2.3 Motherboard layout 19cm (7.5in) PS/2KBM S T: Mouse B: Keyboard e ATX12V SPDIF_O1 LGA775 PARALLEL PORT DDR2 DIMM_B1 (64 bit,240-pin module) DDR2 DIMM_A1 (64 bit,240-pin module) COM1 USB12 LAN_USB34 EATXPWR CHASSIS AUDIO ICS954123BFLF USBPW34 USBPW12 PCIEX16 CLRTC PCIEX1_2 CR2032 3V Lithium Cell CMOS Power PCII RTL8111B Intel ICH7 SPDIF_OUT PCI2 SB_PWR AD1986A PCI3 USBPW78 4Mb BIOS SATA1 SATA2 SATA4 SATA3 USB78 CD USBPW56 PANEL AAFP FLOPPY GAME USB56 ASUS P5PL2-E CHA_FAN PCIEX1_1 Super I/O PRI_EIDE 30.

5cm (12in) Intel MCH 945 P5PL2-E DDR2 DIMM_A2 (64 bit,240-pin module) DDR2 DIMM_B2 (64 bit,240-pin module) PWR_FAN CPU_FAN 2-3 2.2.4 Slots Layout contents Page 2-18 2-18 2-18 1. PCI-E x16 2. PCI-E x1 3. PCI Jumpers 1. Clear RTC RAM (3-pin CLRTC) 2. USB Device wake-up (3-pin USBPW12, USBPW34, USBPW56, USBPW78) Rear panel connectors Page 2-20 2-21 Page 1. 2. 3.

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9. 10. 11. PS/2 mouse port (green) Parallel port LAN (RJ-45) port Line In port (light blue) Line Out port (lime) Microphone port (pink) USB 2.



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0 ports 1 and 2 Serial port (COM1) Coaxial S/PDIF Out port PS/2 keyboard port (purple) 2-22 2-22 2-22 2-22 2-22 2-22 2-23 2-23 2-23 2-23 2-23 2-4
Chapter 2: Hardware information Internal connectors 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. Floppy disk drive connector (34-1 pin FLOPPY) ICH7 Primary IDE connector (40-1 pin PRI_IDE) Digital audio connector (4-1 pin SPDIF) Serial ATA connectors (7-pin SATA1 [red], SATA2 [red], SATA3 [black], SATA4 [black]) Optical drive audio connector (4-pin CD) Front panel audio connector (10-1 pin AAFP) USB connectors (10-1 pin USB56, USB78) GAME/MIDI port connector (16-1 pin GAME) CPU, Chassis, and Power Fan connectors (4-pin CPU_FAN, 3-pin CHA_FAN1, PWR_FAN) Chassis intrusion connector (4-1 pin CHASSIS) ATX power connectors (24-pin EATXPWR, 4-pin ATX12V) System panel connector (20-1 pin PANEL) Page 2-22 2-23 2-23 2-24 2-25 2-25 2-26 2-26 2-27 2-27 2-28 2-29 System power LED (Green 3-pin PLED) Hard disk drive activity LED (Red 2-pin IDE_LED) System warning speaker (Orange 4-pin SPEAKER) ATX power button/soft-off button (Yellow 2-pin PWRSW) Reset button (Blue 2-pin RESET) ASUS P5PL2-E 2-5 2.3 Central Processing Unit (CPU) The motherboard comes with a surface mount LGA775 socket designed for the Intel® Pentium® 4 processor in the 775-land package. 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.

3.1 1. Installing the CPU To install a CPU: Locate the CPU socket on the motherboard. P5PL2-E 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. 2-6 P5PL2-E Chapter 2: Hardware information 2.

Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab. A Retention tab Load lever 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.

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 5. Position the CPU over the socket, making sure that the gold triangle is on the bottom-left corner of the socket. The socket alignment key should fit into the CPU notch. Alignment key Gold triangle mark ASUS P5PL2-E 2-7 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. Close the load plate (A), then push the load lever (B) until it snaps into the retention tab. A B The motherboard supports Intel® Pentium® 4 LGA775 processors with the Intel® Enhanced Memory 64 Technology (EM64T), 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® Pentium® D LGA775 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance. When you buy a boxed Intel® Pentium® D 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® Pentium® D 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. 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 P5PL2-E 2-9 2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.

A B B A B A B A 3. 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 P5PL2-E CPU Fan Connector Do not forget to connect the CPU fan connector! Hardware monitoring errors can occur if you fail to plug this connector. 2-10 P5PL2-E Chapter 2: Hardware information 2.3.

3 1. 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. 3. Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard. A B B A B A B A 4. Carefully remove the heatsink and fan assembly from the motherboard. ASUS P5PL2-E 2-11 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. 2-12 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 240-pin footprint compared to the 184-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: DIMM_A1 DIMM_A2 DIMM_B1 DIMM_B2 P5PL2-E P5PL2-E 240-pin DDR2 DIMM Sockets Channel Channel A Channel B Sockets DIMM_A1 and DIMM_A2 DIMM_B1 and DIMM_B2 2.



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4.2 Memory configurations You may install 128 MB, 256 MB, 512 MB and 1 GB unbuffered non-ECC DDR2 DIMMs into the DIMM sockets. For dual-channel configuration, the total size of memory module(s) installed per channel must be the same (DIMM_A1 + DIMM_A2 = DIMM_B1 + DIMM_B2). Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor. Refer to the DDR2 Qualified Vendors List on the next page for details. This motherboard does not support memory modules made up of 128 Mb chips or double sided x16 memory modules. ASUS P5PL2-E 128 Pins 112 Pins 2-13 Qualified Vendors Lists (QVL) DDR2-533 Size 256 MB 512 MB 1 G Vendor Kingston Kingston Kingston Samsung Infineon Mode KVR533D2N4/256 KVR533D2N4/512 KVR533D2N4/1G M378T3253FG0-CD5 M378T6553BG0-CD5 CL N/A N/A Brand Side(s) Elpida Hynix SS DS Component E5116AB-5C-E HY5PS56821 D6408TE7BL-37 K4T560838QF-GCD5 K4T51083QB-GCD5 DIMM support ABC N/A Kingston DS N/A Samsung SS N/A Samsung SS Infineon SS Infineon SS Micron Corsair Elpida DS DS SS 256 M B Samsung 512 MB 512 MB HYS64T64000GU-3.7-A N/A HYS64T64000HU-3.7-A N/A MT 16HTF6464AG-53EB2 N/A VS512MB533D2 EBE51UD8ABFA-5C-E N/A N/A HYB18T512800AC37SSS11511 HYB18T512800AF37FSS29334 D9BOM MIII0052532M8CEC E5108AB-5C-E 512 MB Infineon 512 MB Micron 512 MB Corsair 512 MB Elpida Side(s): SS - Single-sided DS - Double-sided CL: CAS Latency DIMM support: ASupports one module inserted into either slot, in Single-channel memory configuration.

BSupports one pair of modules inserted into either the yellow slots or the black slots as one pair of Dual-channel memory configuration. CSupports two pairs of modules inserted into the yellow and black slots as two pairs of Dual-channel memory configuration. Visit the ASUS website for the latest DDR2-533/400 MHz QVL. 2-14 Chapter 2: Hardware information 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: 1. 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. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated. 1 3 2 DDR2 DIMM notch 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 1.

Removing a DIMM 2 Follow these steps 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 DDR2 DIMM notch 2.

Remove the DIMM from the socket. ASUS P5PL2-E 2-15 2.5 Expansion slots In the future, you may need to install expansion cards. The following subsections 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 1. 2. 3. 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 Configuring an expansion card After installing the expansion card, configure the it by adjusting the software settings. 1.

2. 3. Turn on the system and change the necessary BIOS settings, if any. See Chapter 4 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.

2-16 Chapter 2: Hardware information 2.5.3 IRQ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Interrupt assignments Priority 1 2 -- 11 12 13 14 15 3 4 5 6 7 8 9 10 Standard Function System Timer Keyboard Controller Re-direct to IRQ#9 -- Communications Port (COM1)* IRQ holder for PCI steering* Floppy Disk Controller Printer Port (LPT1)* System CMOS/Real Time Clock IRQ holder for PCI steering* IRQ holder for PCI steering* IRQ holder for PCI steering* PS/2 Compatible Mouse Port* Numeric Data Processor Primary IDE Channel Secondary IDE Channel Standard interrupt assignments * These IRQs are usually available for ISA or PCI devices. IRQ assignments for this motherboard A PCI slot 1 PCI slot 2 PCI slot 3 PCI E x16 slot PCI E x1 slot 1 PCI E x1 slot 2 Onboard USB controller 0 Onboard USB controller 1 Onboard USB controller 2 Onboard USB controller 3 Onboard EHCI controller Onboard IDE port Onboard SATA port Onboard Audio controller Onboard LAN controller -- shared shared -- shared -- B shared -- shared -- shared -- C -- shared -- D -- shared -- E -- shared -- shared -- F -- shared -- G -- shared -- H -- shared -- ASUS P5PL2-E 2-17 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 x16 slot This motherboard supports PCI Express x16 graphic cards that comply with the PCI Express specifications.

The following figure shows a graphics card installed on the PCI Express x16 slot. 2.5.6 PCI Express x1 slot This motherboard supports PCI Express x1 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 x1 slot.



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2-18 Chapter 2: Hardware information 2.6 1. Jumpers Clear RTC RAM (CLRRTC) 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: 1. Turn OFF the computer and unplug the power cord. 2. Remove the onboard battery. 3.

Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2. 4. Re-install 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! P5PL2-E CLRRTC 12 Normal (Default) 23 Clear RTC P5PL2-E Clear RTC RAM You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.P.R. (CPU Parameter Recall) feature. Shut down and reboot the system so the BIOS can automatically reset parameter settings to default values.

ASUS P5PL2-E 2-19 2. USB device wake-up jumpers (3-pin USBPW12, USBPW34, USBPW56, USBPW78) Set these jumpers to +5V to wake up the computer from S1 sleep mode (CPU stopped, DRAM refreshed, system running in low power mode) using the connected USB devices. Set to +5VSB to wake up from S3 and S4 sleep modes (no power to CPU, DRAM in slow refresh, power supply in reduced power mode). The USBPWR12 and USBPWR34 jumpers are for the rear USB ports. The USBPWR56 and USBPWR78 jumpers are for the internal USB connectors that you can connect to additional USB ports. USBPW1-4 P5PL2-E 12 23 +5V +5VSB (Default) 23 USBPW78 12 USBPW56 12 23 P5PL2-E USB Device Wake Up +5V +5VSB (Default) +5V +5VSB (Default) · 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. · 2-20 Chapter 2:

Hardware information 2.7 2.7.

1 1 Connectors Rear panel connectors 2 3 4 5 6 11 1. 2. 3. 10 9 8 7 PS/2 mouse port (green). This port is for a PS/2 mouse.

Parallel port. This 25-pin port connects a parallel printer, a scanner, or other devices. LAN (RJ-45) port. 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.

LAN port LED indications ACT/LINK LED Status OFF GREEN BLINKING Description No link Linked Data activity Status OFF ORANGE GREEN SPEED LED Description 10 Mbps connection 100 Mbps connection 1 Gbps connection LAN port ACT/LINK SPEED LED LED 4. 5. 6. Line In port (light blue). This port connects a tape, CD, DVD player, or other audio sources. Line Out port (lime). This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configuration, the function of this port becomes Front Speaker Out. Microphone port (pink). This port connects a microphone.

1 2 ASUS P5PL2-E 11 10 9 2-21 Refer to the audio configuration table below for the function of the audio ports in 2, 4, 6, or 8-channel configuration. Audio 2, 4, 6, or 8-channel configuration Port Light Blue Lime Pink 2-channel (Headset) Line In Line Out Mic In 4-channel Line In Front Speaker Out Mic In 6-channel Line In Front Speaker Out Mic In 8-channel Line In Front Speaker Out Mic In 7. 8. 9. USB 2.0 ports 3 and 4. These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices. USB 2.0 ports 1 and 2.

These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices. Serial port. This port connects a mouse, modem, or other devices that conform with serial specification. 10.

Coaxial S/PDIF Out port. This port connects an external audio output device via a coaxial S/PDIF cable. 11. PS/2 keyboard port (purple). This port is for a PS/2 keyboard.

2.7.2 1. Internal connectors Floppy disk drive connector (34-1 pin FLOPPY) 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. P5PL2-E FLOPPY PIN 1 NOTE: Orient the red markings on the floppy ribbon cable to PIN 1. P5PL2-E Floppy Disk Drive Connector 2-22 Chapter 2: Hardware information 2. ICH7 Primary IDE connector (40-1 pin PRI_IDE) This connector is for an Ultra DMA 100/66 signal cable. The Ultra DMA 100/66 signal cable has three connectors: a blue connector for the primary IDE connector on the motherboard, a black connector for an Ultra DMA 100/66 IDE slave device (optical drive/hard disk drive), and a gray connector for an Ultra DMA 100/66 IDE master device (hard disk drive).

If you install two hard disk drives, you must configure the second drive as a slave device by setting its jumper accordingly. Refer to the hard disk documentation for the jumper settings. · 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 100/66 IDE devices. · P5PL2-E PRI_IDE PIN1 P5PL2-E IDE Connector NOTE: Orient the red markings (usually zigzag) on the ID ribbon cable to PIN 1. 3. Digital audio connector (4-1 pin SPDIF) 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. P5PL2-E SPDIF_OUT P5PL2-E Digital Audio Connector The S/PDIF module is purchased separately.

ASUS P5PL2-E +5V SPDIFOUT GND 2-23 4. Serial ATA connectors (7-pin SATA1 [red], SATA2 [red], SATA3 [black], SATA4 [black]) These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives. SATA1 GND RSA TA_RXN1 RSA TA_RXP1 GND RSA TA_TXN1 RSA TA_TXP1 GND SATA4 GND RSA TA_RXN4 RSA TA_RXP4 GND RSA TA_TXN4 RSA TA_TXP4 GND P5PL2-E SATA2 GND RSA TA_RXN2 RSA TA_RXP2 GND RSA TA_TXN2 RSA TA_TXP2 GND SATA3 GND RSA TA_RXN3 RSA TA_RXP3 GND RSA TA_TXN3 RSA TA_TXP3 GND P5PL2-E SATA Connectors Important notes on Serial ATA · You must install Windows® 2000 Service Pack 4 or the Windows® XP Service Pack 1 before using Serial ATA hard disk drives. When using the connectors in Standard IDE mode, connect the primary (boot) hard disk drive to the SATA1 or SATA2 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 SATA1/SATA2 SATA3/SATA4 Color Red Black Setting Master Slave Use Boot disk Data disk 2-24 Chapter 2: Hardware information 5. Optical drive audio connector (4-pin CD) This connector is for the 4-pin audio cable that connects to the audio connector at the back of the optical drive. CD (black) Right Audio Channel Ground Ground Left Audio Channel P5PL2-E P5PL2-E Internal Audio Connector 6. Front panel audio connector (10-1 pin 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. Azalia-compliant pin definition MIC2_JD PRESENSE# AGND P5PL2-E Legacy AC'97-compliant pin definition HP_HP NC NC AGND NC AAFP Line out_L NC Line out_R MIC2_R MIC2_L HP_L Jack_Sense HP_R MIC2_R MIC2_L P5PL2-E Front Panel Audio Connector · We recommend that you connect a high-definition front panel audio module to this connector to avail the motherboard high-definition audio capability.

ASUS P5PL2-E 2-25 7. USB port connectors (10-1 pin USB56, USB78) These connectors are for USB 2.0 ports. Connect the USB/GAME 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+5V USB_P8USB_P8+ GND NC USB78 USB56 1 USB+5V USB_P7USB_P7+ GND 1 USB+5V USB_P5USB_P5+ GND P5PL2-E USB 2.0 Connectors The USB/Game Port cable is not included in this product. 8. GAME/MIDI port connector (16-1 pin GAME) This connector is for a GAME/MIDI port.

Connect the USB/GAME module cable to this connector, then install the module to a slot opening at the back of the system chassis. The GAME/MIDI port connects a joystick or game pad for playing games, and MIDI devices for playing or editing audio files. P5PL2-E GAME P5PL2-E Game Connector 2-26 MIDI_IN J2B2 J2CY MIDI_OUT J2CX J2B1 +5V +5V J1B2 J1CY GND GND J1CX J1B1 +5V Chapter 2: Hardware information USB+5V USB_P6USB_P6+ GND NC P5PL2-E 9. CPU Fan connectors (4-pin CPU_FAN) The fan connectors support cooling fans of 350 mA ~ 2000 mA (24 W max.) or a total of 1 A ~ 3.48 A (41.76 W max.) at +12V. 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 P5PL2-E CPU Fan Connector Only the CPU_FAN connector supports the ASUS Q-Fan feature. 10. Chassis intrusion connector (4-1 pin 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 highlevel 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 pins 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. P5PL2-E P5PL2-E CHASSIS GND Chassis Signal +5VSB_MB (Default) P5PL2-E Intrusion Connector ASUS P5PL2-E 2-27 11.

ATX power connectors (24-pin EATXPW, 4-pin ATX12V) 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. · Use of an ATX 12 V Specification 2.0 -compliant power supply unit (PSU) that provides a minimum power of 350 W is recommended for a fully-configured system. Do not forget to connect the 4-pin ATX +12 V power plug; otherwise, the system will not boot up. 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. · ATX12V +12V DC GND +12V DC GND EATXPWR +3 Volts +12 Volts +12 Volts +5V Standby Power OK Ground +5 Volts Ground +5 Volts Ground +3 Volts +3 Volts Ground +5 Volts +5 Volts +5 Volts -5 Volts Ground Ground Ground PSON# Ground -12 Volts +3 Volts P5PL2-E ATX Power Connector 2-28 P5PL2-E Chapter 2: Hardware information 12. System panel connector (20-1 pin PANEL) This connector supports several chassis-mounted functions.

PLED PLED+ PLED- SPEAKER +5V Ground Ground Speaker P5PL2-E PA NEL IDE_LED+ IDE_LEDReset Ground PWR Ground IDE_LED RESET PWRSW P5PL2-E System Panel Connector * Requires an ATX power supply The sytem panel connector is color-coded for easy connection. Refer to the connector description below for details. · System power LED (Green 3-pin PLED) This 3-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 (Red 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 (Orange 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 (Yellow 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 (Blue 2-pin RESET) This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power. · · · ASUS P5PL2-E 2-29 2-30 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 Starting up for the first time ...

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4. 5. *Starting up for the first time* After making all the connections, replace the system case cover. Be sure that all switches are off. 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.



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c. Monitor System power b. External SCSI devices (starting with the last device on the chain) 6.

After applying power, the system power LED on the system front panel case lights up. For systems with ATX 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 Beep Description 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 P5PL2-E 3-1 3.2 3.2.1 1. 2. 3. Powering off the computer Using the OS shut down function If you are using Windows® 2000: Click the Start button then click Shut Down... @@@@2.

3. Click the Start button then select Turn Off Computer. Click the Turn Off button to shut down the computer. @@@@4-35

Exit menu

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1 Managing and updating your BIOS The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup. 1. 2. 3. 4. ASUS AFUDOS (Updates the BIOS in DOS mode using a bootable floppy disk.) ASUS CrashFree BIOS 2 (Updates the BIOS using a bootable floppy disk or the motherboard support CD when the BIOS file fails or gets corrupted.) ASUS EZ Flash (Updates the BIOS in DOS mode using a floppy disk or the motherboard support CD.) ASUS Update (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 in case you need to restore the BIOS in the future. Copy the original motherboard BIOS using the ASUS Update or AFUDOS utilities. 4.1.1 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. @Insert a formatted, high density 1.44 MB floppy disk into the drive. b. Insert the Windows® 2000 CD to the optical drive. c. Click Start, then select Run. d. @e.

Press <Enter>, then follow screen instructions to continue. 2. @@@@The succeeding BIOS screens are for reference only. The actual BIOS screen displays may not be same as shown. 1. @@@@All rights reserved. Reading flash

. done Write to file....

.. @@@@You need to type the exact BIOS filename at the DOS prompt. 2. @@@@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

. @5. @@@@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.

Turn on the system. @@@@Starting BIOS recovery... @Starting BIOS recovery... Checking for floppy...

Floppy found! Reading file "P5PL2E.rom". Completed. @Doing so can cause system boot failure! 4. Restart the system after the utility completes the updating process.

ASUS P5PL2-E 4-5 Recovering the BIOS from the support CD To recover the BIOS from the support CD: 1. 2. 3. Remove any floppy disk from the floppy disk drive, then turn on the system. Insert the support CD to the optical drive.

@Starting BIOS recovery... Checking for floppy... When no floppy disk is found, the utility automatically checks the optical drive for the original or updated BIOS file. 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 "P5PL2E.rom".

Completed. @Doing so can cause system boot failure! 4. Restart the system after the utility completes the updating process. The recovered BIOS may not be the latest BIOS version for this motherboard. Visit the ASUS website (www.

asus.com) to download the latest BIOS file. 4-6 Chapter 4: BIOS setup 4.1.4 ASUS EZ Flash utility The ASUS EZ Flash 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 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: 1. 2. 3. Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard and rename the same to P5PL2E.ROM. Save the BIOS file to a floppy disk, then restart the system. Press <Alt> + <F2> during POST to display the following.

EZFlash starting BIOS update Checking for floppy... 4. Insert the floppy disk that contains the BIOS file to the floppy disk drive. When the correct BIOS file is found, EZ Flash performs the BIOS update process and automatically reboots the system when done. EZFlash starting BIOS update Checking for floppy...

Floppy found! Reading file "P5PL2E.
rom". Completed. Start erasing...

....! Start programming.

..! Flashed successfully. Rebooting. · · Do not shut down or reset the system while updating the BIOS to prevent system boot failure! A "Floppy not found!" error message appears if there is no floppy disk in the drive. A "P5PL2E.ROM not found!" error message appears if the correct BIOS file is not found in the floppy disk. Make sure that you rename the BIOS file to P5PL2E.ROM. ASUS P5PL2-E 4-7 4.

1.5 ASUS Update utility The ASUS Update is a utility that allows you to manage, save, and update the motherboard BIOS in Windows® environment. The ASUS Update utility allows you to: · · · · Save the current BIOS file Download the latest BIOS file from the Internet Update the BIOS from an updated BIOS file Update the BIOS directly from the Internet, and View the BIOS version information. This utility is available in the support CD that comes with the motherboard package. ASUS Update requires an Internet connection either through a network or an Internet Service Provider (ISP).



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Installing ASUS Update To install ASUS Update: 1. 2. 3. Place the support CD in the optical drive. The Drivers menu appears. Click the Utilities tab, then click Install ASUS Update VX.XX.XX. 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. 4-8 Chapter 4: BIOS setup Updating the BIOS through the Internet To update the BIOS through the Internet: 1. @The ASUS Update main window appears. 2. Select Update BIOS from the Internet option from the drop-down menu, then click Next.

3. Select the ASUS FTP site nearest you to avoid network traffic, or click Auto Select. Click Next. ASUS P5PL2-E 4-9 4. 5. From the FTP site, select the BIOS version that you wish to download. Click Next. @@@@2. @The ASUS Update main window appears. @@4.

Locate the BIOS file from the Open window, then click Save. @@@@The firmware hub on the motherboard stores the Setup utility. @@@@If you wish to enter Setup after POST, restart the system by pressing <Ctrl>+<Alt>+, 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 Default Settings item under the Exit Menu.

See section "4.7 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.

ASUS P5PL2-E 4-11 4.2.1 BIOS menu screen Menu bar Configuration fields General help Menu items System Time System Date Legacy Diskette A Primary IDE Master Primary IDE Slave Third IDE Master Third IDE Slave Fourth IDE Master Fourth IDE Slave IDE Configuration System Information : : : : [04:46:19] [Tue 01/01/2002] [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. +Tab F1 F10 ESC Select Screen Select Item Change Field Select Field General Help Save and Exit Exit Sub-menu items Navigation keys 4.2.2 Main Advanced Power Boot Exit Menu bar For changing the basic system configuration For changing the advanced system settings For changing the advanced power management (APM) configuration For changing the system boot configuration For selecting the exit options and loading default settings The menu bar on top of the screen has the following main items: 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 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.

4-12 Chapter 4: BIOS setup 4.2.4 Menu items System Time System Date Legacy Diskette A Language 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] [English] :[ST320413A] :[ASUS CD-S340] :[Not Detected] :[Not Detected] :[Not Detected] :[Not 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. +Tab F1 F10 ESC Select Screen Select Item Change Field Select Field General Help Save and Exit Exit 4.

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>. 4.2.

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." 4.2.7 Pop-up window Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item. 4.2.8 Scroll bar Advanced Chipset settings WARNING: Setting wrong values in the sections below may cause system to malfunction. Configure DRAM Timing by SPD Memory Acceleration Mode DRAM Idle Timer DRAM Refresh Rate Graphic Adapter Priority Graphics Aperture Size Spread Spectrum ICH Delayed Transaction MPS Revision [Enabled] [Auto] [Auto] [Auto] [AGP/PCI] [64 MB] [Enabled] [Enabled] [1.

4] +F1 F10 ESC 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. Select Screen Select Item Change Option General Help Save and Exit Exit 4.2.9 General help Pop-up window Scroll bar At the top right corner of the menu screen is a brief description of the selected item. ASUS P5PL2-E 4-13 4.3 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 "4.2.1 BIOS menu screen" for information on the menu screen items and how to navigate through them.

System Time System Date Legacy Diskette A Primary IDE Master Primary IDE Slave Third IDE Master Third IDE Slave Fourth IDE Master Fourth IDE Slave IDE Configuration System Information : : : : [04:51:19] [Tue 01/01/2002] [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. +Tab F1 F10 ESC Select Screen Select Item Change Field Select Field General Help Save and Exit Exit 4.

3.1 4.3.2 4.3.

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.



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Sets the type of floppy drive installed. Configuration options: [Disabled] [360K, 5.25 in.] [1.2M, 5.

25 in.] [720K, 3.5 in.] [1.44M, 3.5 in.] [2.88M, 3.5 in.] 4-14 Chapter 4: BIOS setup 4.

3.4 Primary, Third and Fourth IDE Master/Slave The BIOS automatically detects the connected 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. Primary IDE Master Device : Hard Disk Vendor : ST320413A Size : 20.

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 [Auto] LBA/Large Mode [Auto] Block(Multi-sector Transfer) M [Auto] PIO Mode [Auto] DMA Mode [Auto] SMART Monitoring [Auto] 32Bit Data Transfer [Disabled] Select the type of device connected to the system. +F1 F10 ESC Select Screen Select Item Change Option General Help Save and Exit Exit 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. Type [Auto] Selects the type of IDE drive.

Setting to [Auto] allows automatic selection of the appropriate IDE device type. Select [CDROM] if you are specifically configuring a CD-ROM drive. Select [ARMD] (ATAPI Removable Media Device) if your device is either a ZIP, LS-120, or MO drive. Configuration options: [Not Installed] [Auto] [CDROM] [ARMD] LBA/Large Mode [Auto] Enables or disables the LBA mode. Setting to [Auto] enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Configuration options: [Disabled] [Auto] Block (Multi-sector Transfer) [Auto] Enables or disables data multi-sectors transfers. When set to [Auto], the data transfer from and to the device occurs multiple sectors at a time if the device supports multi-sector transfer feature. When set to [Disabled], the data transfer from and to the device occurs one sector at a time. Configuration options: [Disabled] [Auto] ASUS P5PL2-E 4-15 PIO Mode [Auto] Selects the PIO mode. Configuration options: [Auto] [0] [1] [2] [3] [4] DMA Mode [Auto] Selects the DMA mode.

Configuration options: [Auto] SMART Monitoring [Auto] Sets the Smart Monitoring, Analysis, and Reporting Technology. Configuration options: [Auto] [Disabled] [Enabled] 32Bit Data Transfer [Disabled] Enables or disables 32-bit data transfer. Configuration options: [Disabled] [Enabled] 4.3.5 IDE Configuration The items in this menu allow you to set or change the configurations for the IDE devices installed in the system. Select an item then press <Enter> if you wish to configure the item. IDE Configuration Onboard IDE Operate Mode Enhanced Mode Support On IDE Detect Time Out (Sec) [Enhanced Mode] [S-ATA] [35] When in AHCI/ RAID mode SATA controller is forced to Native mode. 4-16 Chapter 4: BIOS setup Onboard IDE Operate Mode [Enhanced Mode] Allows selection of the IDE operation mode depending on the installed operating system (OS). Set to [Enhanced Mode] if you are using native OS including Windows® 2000/XP. Configuration options: [Disabled] [Compatible Mode] [Enhanced Mode] Enhanced Mode Support On [S-ATA] Allows you to use native OS on Serial ATA and Parallel ATA ports.

It is recommend that you do not change the default setting for better OS compatibility. In this setting, you may use legacy OS on the Parallel ATA ports only if you do not install any Serial ATA device. The P-ATA+S-ATA and P-ATA options are for advanced users only. If you set to any of these options and encountered problems, revert to the default setting S-ATA. Configuration options: [S-ATA+P-ATA] [S-ATA] [P-ATA] The Onboard IDE Operate Mode and sub-menu items appear only when the Configure SATA As item is set to [Standard IDE].

IDE Detect Time Out [35] Selects the time out value for detecting ATA/ATAPI devices. Configuration options: [0] [5] [10] [15] [20] [25] [30] [35] ASUS P5PL2-E 4-17 4.3.6 System Information This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.

AMIBIOS Version : 0103 Build Date : 09/01/06 Processor Type Speed Count : Intel(R) Pentium(R) 4 CPU 2.66GHz : 2666 MHz :1 System Memory Total : 256MB Appropriated : 0MB Available : 256MB +F1 F10 ESC Select Screen Select Item Change Option General Help Save and Exit Exit AMI BIOS Displays the auto-detected BIOS information. Processor Displays the auto-detected CPU specification. System Memory Displays the auto-detected total, appropriated (in use), and available system memory. 4-18 Chapter 4: BIOS setup 4.4 Advanced menu The Advanced menu items allow you to change the settings for the CPU and other system devices. Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction. JumperFree Configuration USB Configuration CPU Configuration Chipset Onboard Devices Configuration PCIPnP Adjust system frequency/voltage. 4.

4.1 JumperFree Configuration Select the target CPU frequency, and the relevant parameters will be auto-adjusted. Frequencies higher than CPU manufacturer recommends are not guaranteed to be stable. If the system becomes unstable, return to the default. Select Screen Select Item Change Option General Help Save and Exit Exit Configure System Frequency/Voltage AI Overclocking [Auto] AI Overclocking [Auto] Allows you to select the overclocking options to achieve the desired CPU internal frequency. Select either one of the preset overclocking configuration options. Manual - allows you to individually set overclocking parameters. Auto - loads the optimal settings for the system. Overclock Profile - loads overclocking profiles with optimal parameters for stability when overclocking. +F1 F10 ESC ASUS P5PL2-E 4-19 The following item appears only when you set the AI Overclocking item to [Manual].

CPU Frequency [XXX] Displays the frequency sent by the clock generator to the system bus and PCI bus. The value of this item is auto-detected by the BIOS. Use the <+> and <-> keys to adjust the CPU frequency. You can also type the desired CPU frequency using the numeric keypad. The values range from 100 to 450.

Refer to the table below for the correct Front Side Bus and CPU External Frequency settings. FSB/CPU External Frequency Synchronization Front Side Bus FSB 1066 FSB 800 FSB 533 CPU External Frequency 200 MHz 133 MHz 266 MHz DRAM Frequency [Auto] Allows you to set the DDR operating frequency. The available configuration options vary depending on the Front Side Bus settings. Configuration options: [Auto] [DDR2-400MHZ] [DDR2-533MHZ]. Refer to the table below for details.

Available DRAM frequency options in various FSB settings FSB Auto FSB 1066 FSB 800 · · DDR2533 · · DDR2667 · · Configuration options DDR2800 · · DDR2889* · DDR21067* · * Provided for overclocking purpose only.



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