Asus 1U Rackmount Barebone Server RS120-E3 (PA4) User Manual

Asustek computer 1u rackmount barebone server user guide

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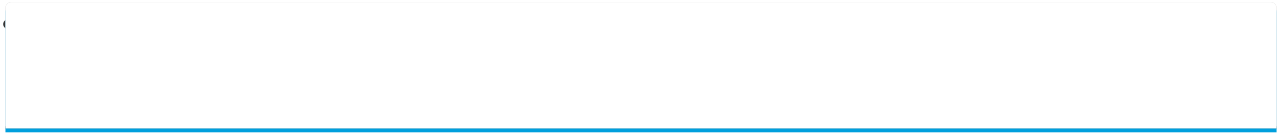

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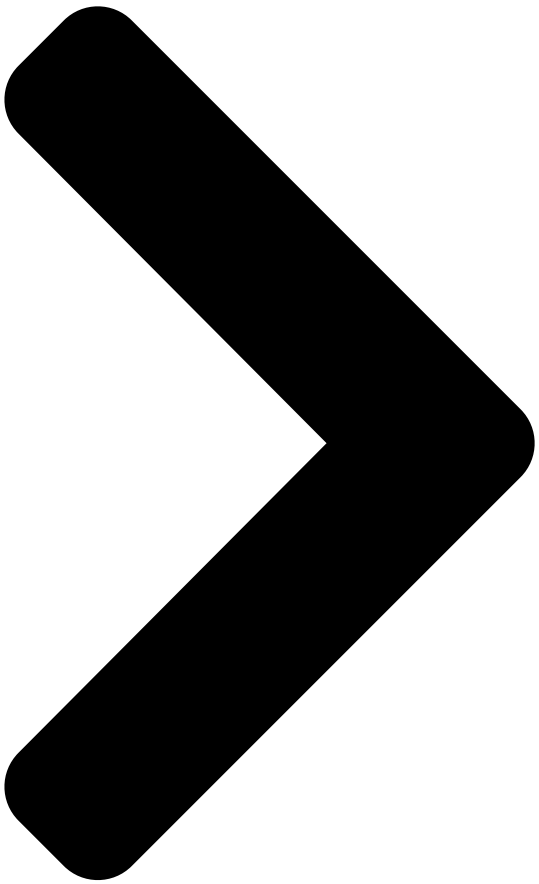

RS120-E3

1U Rackmount Barebone Server

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User Guide

(PA4)

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Related Manuals for Asus 1U Rackmount Barebone Server RS120-E3 (PA4)

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1u rackmount barebone server (168 pages)

Server Asus RS120-E4 PA4 User Manual

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Server Asus 1U Rackmount Barebone Server RS160-E3/PS4 User Manual

Asus rs160-e3/ps4 1u rackmount barebone server user guide (140 pages)

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Summary of Contents for Asus 1U Rackmount Barebone Server RS120-E3 (PA4)

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Page 2 (including damages for loss of profits, loss of business, loss of use or data, interruption

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Page 3: Table Of Contents

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Page 7: Notices

Notices Federal Communications Commission Statement Federal Communications Commission Statement Federal Communications Commission Statement Federal Communications Commission Statement 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 •...

Page 8: Safety Information

Safety information Electrical Safety Electrical Safety Electrical Safety Electrical Safety Electrical Safety • Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged. • To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.

Page 9: About This Guide

About this guide Audience Audience Audience Audience Audience This user guide is intended for system integrators, and experienced users with at least basic knowledge of configuring a server. Contents Contents Contents Contents Contents This guide contains the following parts: 1 . 1 . C h a p t e r 1 : P r o d u c t I n t r o d u c t i o n C h a p t e r 1 : P r o d u c t I n t r o d u c t i o n C h a p t e r 1 : P r o d u c t I n t r o d u c t i o n...

Page 10 A S U S S e r v e r W e b - b a s e d M a n a g e m e n t (A S W M) u s e r g u i d e This manual tells how to set up and use the proprietary ASUS server management utility.

Page 11 Chapter 1 This chapter describes the general features of the chassis kit. It includes sections on front panel and rear panel specifications. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 12: System Package Contents

ASUS R10 1U rackmount chassis with: • ASUS P5MT-R motherboard • 400 W power supply • SATA backplane (ASUS BP4LSA-F10-R10) with 4 x SATA cables • PCI-X and PCI Express x8 riser assembly (ASUS PCI64-EXP-X8) • Front I/O board (ASUS FPB-AR14) •...

Page 13: System Specifications

System specifications The ASUS RS120-E3/PA4 is a 1U barebone server system featuring the ASUS P5MT-R motherboard. The server supports the Intel D processor in the LGA775 package, and includes the latest technologies through the chipsets embedded on the motherboard. C h a s s i s...

Page 14: Front Panel Features

Front panel features The barebone server displays a simple yet stylish front panel with easily accessible features. The power and reset buttons, LED indicators, location switch, optical drive, and two USB ports are located on the front panel. Refer to section “1.6.2 Front panel LEDs” for the LED descriptions. R a c k s c r e w R a c k s c r e w R a c k s c r e w...

Page 15: Internal Features

The barebone server does not include a floppy disk drive. Connect a USB floppy disk drive to any of the USB ports on the front or rear panel if you need to use a floppy disk. • Only ASUS CD/DVD-ROMs fit the optical drive bay. LED information 1.6.1 1.6.1 1.6.1...

Page 16: Front Panel Leds

1.6.2 1.6.2 1.6.2 Front panel LEDs Front panel LEDs Front panel LEDs 1.6.2 1.6.2 Front panel LEDs Front panel LEDs H D D A c c e s s L E D H D D A c c e s s L E D H D D A c c e s s L E D H D D A c c e s s L E D H D D A c c e s s L E D...

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Chapter 2 This chapter lists the hardware setup procedures that you have to perform when installing or removing system components. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 18: Chapter 2: Hardware Setup

Chassis cover 2.1.1 2.1.1 2.1.1 Removing the front cover Removing the front cover Removing the front cover 2.1.1 2.1.1 Removing the front cover Removing the front cover Use a Phillips screwdriver to remove the screw on each front end of the top cover. Loosen the two thunbscrews on the rear panel to release the top cover from the chassis.

Page 19: Removing The Rear Cover

Then push the front cover as arrow show. Disconnect the LAN activity LED/ Locator LED cable and USB cable from the connectors under the top front cover. Disconnect the IDE cable and the power plug from the connectors on the back of the drive. Then leave the cover as side.

Page 20: Installing The Cover

Firmly hold the cover and slide it toward the rear panel for about half an inch until it is disengaged from the chassis. Lift the cover from the chassis. 2.1.3 2.1.3 Installing the top cover Installing the top cover 2.1.3 2.1.3 2.1.3 Installing the top cover...

Page 21: Central Processing Unit (Cpu)

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.

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Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab. R e t e n t i o n t a b R e t e n t i o n t a b R e t e n t i o n t a b R e t e n t i o n t a b R e t e n t i o n t a b...

Page 23: Installing The Cpu Heatsink And Airduct

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! Close the load plate (A), then push the load lever (B) until it snaps into the retention tab.

Page 24

To install the airduct: Position the airduct on top of the heatsink. Carefully lower the airduct until it fits in place. 2 - 8 2 - 8 2 - 8 2 - 8 2 - 8 C h a p t e r 2 : H a r d w a r e s e t u p C h a p t e r 2 : H a r d w a r e s e t u p C h a p t e r 2 : H a r d w a r e s e t u p C h a p t e r 2 : H a r d w a r e s e t u p...

Page 25: System Memory

• Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor. Visit the ASUS website for an updated DDR2 Qualified Vendors List for this motherboard. • Due to chipset resource

allocation, and depending on the number of...

Page 26: Installing A Dimm

2.3.3 2.3.3 2.3.3 Installing a DIMM Installing a DIMM Installing a DIMM 2.3.3 2.3.3 Installing a DIMM Installing a DIMM Make sure to unplug the power supply before adding or removing DIMMs or other system components. Failure to do so may cause severe damage to both the motherboard and the components.

Page 27: Hard Disk Drives

Hard disk drives The system supports four hot-swap Serial ATA hard disk drives. The hard disk drive installed on the left tray connects to the motherboard SATA ports via SATA backplane. To install a hot-swap SATA HDD: Release a drive tray by pushing the spring lock to the right, then pulling the tray lever outward.

Page 28

Carefully insert the drive tray and push it all the way to the depth of the bay until just a small fraction of the tray edge protrudes. When installed, the SATA connector on the drive connects to the SATA interface on the backplane. Push the tray lever until it clicks, and secures the drive tray in place.

Page 29: Expansion Slot

Expansion slot 2.5.1 2.5.1 Installing an expansion card to the Installing an expansion card to the 2.5.1 2.5.1 2.5.1 Installing an expansion card to the Installing an expansion card to the Installing an expansion card to the riser card bracket riser card bracket riser card bracket riser card bracket...

Page 30

To install a PCI Express x8 card: Follow steps 1 to 2 of the previous section. P C I E x p r e s s x 8 s l o t P C I E x p r e s s x 8 s l o t P C I E x p r e s s x 8 s l o t P C I E x p r e s s x 8 s l o t P C I E x p r e s s x 8 s l o t...

Page 31: Reinstalling The Riser Card Bracket

2.5.2 2.5.2 2.5.2 Reinstalling the riser card bracket Reinstalling the riser card bracket Reinstalling the riser card bracket 2.5.2 2.5.2 Reinstalling the riser card bracket Reinstalling the riser card bracket To reinstall the riser card bracket: Take note of the holes on the riser card bay. The three pegs on the riser card bracket should match these holes to ensure that the bracket is properly in place.

Page 32: Configuring An Expansion Card

2.5.3 2.5.3 2.5.3 Configuring an expansion card Configuring an expansion card Configuring an expansion card 2.5.3 2.5.3 Configuring an expansion card Configuring an expansion card After installing the expansion card, configure the it by adjusting the software settings. Turn on the system and change the necessary BIOS settings, if any. See Chapter 5 for information on BIOS setup.

Page 33: Cable Connections

Cable connections 3 3 3 3 3 Pre-connected system cables Pre-connected system cables Pre-connected system cables Pre-connected system cables Pre-connected system cables 24-pin SSI power connector (from power supply to motherboard) 4-pin SSI power connector (power supply to motherboard) SATA backplane power connector (from power supply) Primary IDE connector (from motherboard to optical drive) Device fan connector (from motherboard FRONT_FAN3 to device fan) SATA connectors (from motherboard to SATA backplane board)

Page 34: Sata Backplane Cabling

SATA backplane cabling C o n n e c t s t h e d e v i c e f a n c a b l e C o n n e c t s t h e d e v i c e f a n c a b l e C o n n e c t s t h e d e v i c e f a n c a b l e C o n n e c t s t h e d e v i c e f a n c a b l e C o n n e c t s t h e d e v i c e f a n c a b l e...

Page 35: Removable Components

Removable components You may need to remove previously installed system components when installing or removing system devices, or when you need to replace defective components. This section tells how to remove the following components: System fans Device fan Power supply module Optical drive Motherboard 2.8.1...

Page 36 To uninstall the system fans: Disconnect a system fan cable from the fan connector on the backplane board. Lift the fan, then set aside. Repeat step 1 to 2 to uninstall the other system fans. To reinstall the system fan: Insert the fan to the fan cage.

Page 37: System Fan With Dummy Case

2.8.2 2.8.2 2.8.2 System fan with dummy case System fan with dummy case System fan with dummy case 2.8.2 2.8.2 System fan with dummy case System fan with dummy case The system fan for the memory module(s) comes with a dummy case that allows it to fit in the fan cage.

Page 38: Device Fan

2.8.3 2.8.3 2.8.3 Device fan Device fan Device fan 2.8.3 2.8.3 Device fan Device fan The system comes with two 28 mm * 40 mm (15500 rpm) device fans. Refer to the illustration below for location of the device fans. To uninstall the device fan: Disconnect the device fan cable from the connector on the...

Page 39: Power Supply Module

2.8.4 2.8.4 2.8.4 Power supply module Power supply module Power supply module 2.8.4 2.8.4 Power supply module Power supply module To uninstall the power supply module: Disconnect all the power cables connected to the motherboard and other system devices. Use a Phillips (cross) screwdriver to remove the screws that secure the front end of the power supply.

Page 40: Optical Drive

2.8.5 2.8.5 2.8.5 Optical drive Optical drive Optical drive 2.8.5 2.8.5 Optical drive Optical drive To uninstall the slim optical drive: Use a Phillips screwdriver (cross) to remove the screw on each end of the top cover. Loosen the two thunbscrews on the rear panel to release the top cover from the chassis.

Page 41: Front Cover

Then push the front cover as arrow show. Disconnect the LAN activity LED/ Locator LED cable and USB cable from the connectors under the top front cover. Disconnect the IDE cable and the power plug from the connectors on the back of the drive. Then leave the cover as side.

Page 42 Use a Phillips screwdriver (cross) to remove three screws that secures the drive. 10. Use a Phillips screw driver (cross) to remove two screws that secures the backplane with the drive. Then, remove the backplane from the drive. 11. Carefully slide the optical drive inward for about half an inch, then lift it out of the bay.

Page 43: Motherboard

To reinstall the optical drive, follow the instructions in the previous chapter in a reverse order. When installing a new optical drive, make sure to remove the drive front panel assembly and tray bezel before installing it to the chassis. 2.8.6 2.8.6 2.8.6...

Page 44 To reinstall the motherboard: Firmly hold the motherboard by the sides and insert it into the chassis as shown. Carefully adjust the motherboard until the rear panel ports fit in place. Use a Phillips (cross) screwdriver to secure the motherboard with ten (10) screws in the holes as shown in the illustration in the previous section.

Page 45 Chapter 3 This chapter describes how to install the optional components and devices into the barebone server. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 46: Chapter 3: Installation Options

Rackmount rail kit items If you have the rackmount rail kit, it contains two pairs of rails (one pair for each side of the barebone system), and eight (8) pairs of nut-and-bolt type screws. N u t s N u t s N u t s N u t s N u t s...

Page 47: Attaching The Rails To The Rack

Attaching the rails to the rack To attach the rails to the rack: Select one unit of space (1U) on the rack where you wish to install the barebone server. Remove the screws from the 1U space on the rack front. Align the front end holes of a rack rail pair to the 1U space.

Page 48: Rackmounting The Server

Rackmounting the server To mount the server to the rack: Firmly hold the server on both sides and insert the rear panel side to the front end of the rack rail, then carefully push the server all the way to the back until the front panel fits the front end of the rack, and the rack screws on the server match the middle hole on the rack..

Page 49: Motherboard Layout

Chapter 4 This chapter includes the motherboard layout, and brief descriptions of the jumpers and internal connectors. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 50: Motherboard Layout

Motherboard layout VGA1 PS2_MS1 PS2_KB1 KBPWR1 SBPW_LED P5MT-R ATX12V1 4 - 2 4 - 2 4 - 2 4 - 2 4 - 2 31cm (12.2in) USB2 USB1 USBPW12 ® ® Intel E7230 CR2032 3V Lithium Cell CMOS Power LGA775 FRNT_FAN1 C h a p t e r 4 : M o t h e r b o a r d i n f o r m a t i o n C h a p t e r 4 : M o t h e r b o a r d i n f o r m a t i o n...

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Layout contents Layout contents Layout contents Layout contents Layout contents J u m p e r s J u m p e r s J u m p e r s J u m p e r s J u m p e r s Clear RTC RAM (CLRTC1) USB device wake-up (3-pin USBPW12, USBPW34) Keyboard power (3-pin KBPWR1)

Page 52: Jumpers

Jumpers 1 . 1 . C l e a r R T C R A M (C L R T C 1) C l e a r R T C R A M (C L R T C 1) C l e a r R T C R A M (C L R T C 1) C l e a r R T C R A M (C L R T C 1) C l e a r R T C R A M (C L R T C 1)

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2 . 2 . U S B d e v i c e w a k e - u p (3 - p i n U S B P W 1 2 , U S B P W 3 4) U S B d e v i c e w a k e - u p (3 - p i n U S B P W 1 2 , U S B P W 3 4) U S B d e v i c e w a k e - u p (3 - p i n U S B P W 1 2 , U S B P W 3 4) U S B d e v i c e w a k e - u p (3 - p i n U S B P W 1 2 , U S B P W 3 4)

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4 . 4 . G i g a b i t L A N 1 c o n t r o l l e r s e t t i n g (3 - p i n L A N _ E N 1) G i g a b i t L A N 1 c o n t r o l l e r s e t t i n g (3 - p i n L A N _ E N 1) G i g a b i t L A N 1 c o n t r o l l e r s e t t i n g (3 - p i n L A N _ E N 1) G i g a b i t L A N 1 c o n t r o l l e r s e t t i n g (3 - p i n L A N _ E N 1)

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6 . 6 . I n t e g r a t e d g r a p h i c s c o n t r o l l e r (3 - p i n V G A _ E N 1) I n t e g r a t e d g r a p h i c s c o n t r o l l e r (3 - p i n V G A _ E N 1) I n t e g r a t e d g r a p h i c s c o n t r o l l e r (3 - p i n V G A _ E N 1) I n t e g r a t e d g r a p h i c s c o n t r o l l e r (3 - p i n V G A _ E N 1)

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8 . 8 . F o r c e B I O S r e c o v e r y (3 - p i n R E C O V E R Y 1) F o r c e B I O S r e c o v e r y (3 - p i n R E C O V E R Y 1) F o r c e B I O S r e c o v e r y (3 - p i n R E C O V E R Y 1) F o r c e B I O S r e c o v e r y (3 - p i n R E C O V E R Y 1) F o r c e B I O S r e c o v e r y (3 - p i n R E C O V E R Y 1)

Page 57: Connectors

Connectors 1 . 1 . F l o p p y d i s k d r i v e c o n n e c t o r (3 4 - 1 p i n F L O P P Y 1) F l o p p y d i s k d r i v e c o n n e c t o r (3 4 - 1 p i n F L O P P Y 1) F l o p p y d i s k d r i v e c o n n e c t o r (3 4 - 1 p i n F L O P P Y 1) F l o p p y d i s k d r i v e c o n n e c t o r (3 4 - 1 p i n F L O P P Y 1)

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3 . 3 . 3 . 3 . Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4) Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4) Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4) Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4) Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4) These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.

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4 . 4 . H a r d d i s k a c t i v i t y L E D c o n n e c t o r (4 - p i n H D L E D 1) H a r d d i s k a c t i v i t y L E D c o n n e c t o r (4 - p i n H D L E D 1) H a r d d i s k a c t i v i t y L E D c o n n e c t o r (4 - p i n H D L E D 1) H a r d d i s k a c t i v i t y L E D c o n n e c t o r (4 - p i n H D L E D 1)

Page 60 6.6.USBportconnector(10-1pinUSB34)USBportconnector(10-1pinUSB34)USBportconnector(10-1pinUSB34)USBportconnector(10-1pinUSB34)USBportconnector(10-1pinUSB34)

Page 61 8.8.SSI power connectors (24-pin ATXPWR1, SSISSISSISSI power connectors (24-pin ATXPWR1, power connectors (24-pin ATXPWR1, power connectors (24-pin ATXPWR1, power connectors (24-pin ATXPWR1, 44444-pin These connectors are for SSI power supply plugs.

Page 62 BMCconnector(16-pinBMCCONN1)BMCconnector(16-pinBMCCONN1) This connector is for the optional ASUS server management card. ®...

Page 63 11.11.BackplaneSMBusconnector(6-1pinBPSMB1)11.

Page 64 13.Auxiliarypanelconnector(20-pinAUX_PANEL1)13.

Page 65 14.14.Systempanelconnector(20-pinPANEL1)14.

Page 66 • ATXpowerbutton/soft-offbutton(Yellow2-pinPWRSW)ATXpowerbutton/soft-offbutton(Yellow2-pinPWRSW)ATXpowerbutton/soft-offbutton(Yellow2-pinPWRSW)ATXpowerbutton/soft-offbutton(Yellow2-pinPWRSW)

Page 67 Chapter 5 This chapter tells how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided. ASUSRS120-E3/PA4ASUSRS120-E3/PA4ASUSRS120-E3/PA4ASUSRS120-E3/PA4...

Page 68: Chapter 5: Bios Setup

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. 5.1.1 5.1.1 5.1.1...

Page 69: Afudos Utility

Mainfilenam e 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...

Page 70 Updating the BIOS file To update the BIOS file using the AFUDOS utility: Visit the ASUS website (www.asus.com) and download the latest BIOS file for the motherboard. Save the BIOS file to a bootable floppy disk. Write the BIOS filename on a piece of paper. You need to type the exact BIOS filename at the DOS prompt.

Page 71 The utility returns to the DOS prompt after the BIOS update process is completed. Reboot the system from the hard disk drive. A:\>afudos /iP5MTR.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 ...

Page 72: Asus Crashfree Bios 2 Utility

ASUS CrashFree BIOS 2 utility ASUS CrashFree BIOS 2 utility The ASUS CrashFree BIOS 2 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 or the floppy disk that contains the updated BIOS file.

Page 73 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. ASUSRS120-E3(PA2)

Page 74: Asus Update Utility

ASUS Update utility ASUS Update utility 5.1.4 5.1.4 ASUS Update utility ASUS Update utility The ASUS Update is a utility that allows you to manage, save, and update the motherboard BIOS in Windows you to: • Save the current BIOS file •...

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Updating the BIOS through the Internet To update the BIOS through the Internet: Launch the ASUS Update utility from the Windows S t a r t > P r o g r a m s S t a r t...

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Updating the BIOS through a BIOS file Updating the BIOS through a BIOS file To update the BIOS through a BIOS file: Launch the ASUS Update utility from the Windows S t a r t S t a r t...

Page 77: Bios Setup Program

• Visit the ASUS website (www.asus.com) to download the latest BIOS file for this motherboard. A S U S R S 1 2 0 - E 3 / P A 4...

Page 78: Bios Menu Screen

5.2.1 5.2.1 5.2.1 BIOS menu screen BIOS menu screen BIOS menu screen 5.2.1 5.2.1 BIOS menu screen BIOS menu screen M e n u i t e m s M e n u i t e m s M e n u b a r M e n u b a r M e n u i t e m s M e n u i t e m s...

Page 79: Menu Items

5.2.4 5.2.4 5.2.4 Menu items Menu items Menu items 5.2.4 5.2.4 Menu items Menu items The highlighted item on the menu bar displays the specific items for that menu. For example, selecting M a i n shows the Main menu items. The other items (Advanced, Power, Boot, and Exit) on the menu bar have their respective menu items.

Page 80: Main Menu

Main menu When you enter the BIOS Setup program, the M a i n giving you an overview of the basic system information. Refer to section “5.2.1 BIOS menu screen” for information on the menu screen items and how to navigate through them. Main Advanced System Time...

Page 81: Ide Configuration

5.3.4 5.3.4 5.3.4 IDE Configuration IDE Configuration IDE Configuration 5.3.4 5.3.4 IDE Configuration 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 want to configure the item.

Page 82: Raid Mode

The AHCI allows the onboard storage driver to enable advanced Serial ATA features that increases storage performance on random workloads by allowing the drive to internally optimize the order of commands. If you want the Serial ATA hard disk drives to use the Advanced Host Controller Interface (AHCI), set this item to [AHCI].

Page 83: Primary/Secondary/Third Ide Master/Slave

5.3.5 5.3.5 5.3.5 Primary/Secondary/Third IDE Master/Slave Primary/Secondary/Third IDE Master/Slave Primary/Secondary/Third IDE Master/Slave 5.3.5 5.3.5 Primary/Secondary/Third IDE Master/Slave Primary/Secondary/Third 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.

Page 84: System Information

PIO Mode [Auto] PIO Mode [Auto] PIO Mode [Auto] PIO Mode [Auto] PIO Mode [Auto] Selects the PIO mode. Configuration options: [Auto] [0] [1] [2] [3] [4] DMA Mode [Auto] DMA Mode [Auto] DMA Mode [Auto] DMA Mode [Auto] DMA Mode [Auto] Selects the DMA mode.

Page 85: Advanced Menu

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. Advanced MPS Configuration

Remote Access Configuration CPU Configuration...

Page 86: Remote Access Configuration

5.4.2 5.4.2 5.4.2 Remote Access Configuration Remote Access Configuration Remote Access Configuration 5.4.2 5.4.2 Remote Access Configuration Remote Access Configuration Advanced Configure Remote Access type and parameters Remote Access Serial port number Base Address, IRQ Serial Port Mode Flow Control Redirection After BIOS POST Terminal Type VT-UTFB Combo Key Support...

Page 87: Cpu Configuration

VT-UTF8 Combo Key Support [Enabled] VT-UTF8 Combo Key Support [Enabled] VT-UTF8 Combo Key Support [Enabled] VT-UTF8 Combo Key Support [Enabled] VT-UTF8 Combo Key Support [Enabled] Enables or disables the VT-UTF8 combo key support for ANSI or VT100 terminals. Configuration options: [Disabled] [Enabled] Sredir Memory Display Delay [No Delay] Sredir Memory Display Delay [No Delay] Sredir Memory Display Delay [No Delay]...

Page 88 CPU TM funtion [TM1] CPU TM funtion [TM1] CPU TM funtion [TM1] CPU TM funtion [TM1] CPU TM funtion [TM1] Configuration options: [TM1] [TM2] The Hyper-Threading Technology item appears only when you installed an Intel ® Pentium Hyper-Threading is not supported when you installed a dual-core CPU. Hyper-Threading Technology [Enabled] Hyper-Threading Technology [Enabled] Hyper-Threading Technology [Enabled]...

Page 89: Chipset Configuration

5.4.4 5.4.4 5.4.4 Chipset Configuration Chipset Configuration Chipset Configuration 5.4.4 5.4.4 Chipset Configuration Chipset Configuration The Chipset Configuration menu allows you to change the advanced chipset settings. Select an item then press <Enter> to display the sub-menu. Advanced Advanced Chipset Settings WARNING: Setting wrong values in below sections may cause system to malfunction.

Page 90 DRAM Frequency [Auto] DRAM Frequency [Auto] DRAM Frequency [Auto] DRAM Frequency [Auto] DRAM Frequency [Auto] Allows you to set the DDR operating frequency. Configuration options: [Auto] [533 MHz] [667 Mhz] Configure DRAM Timing by SPD [Enabled] Configure DRAM Timing by SPD [Enabled] Configure DRAM Timing by SPD [Enabled] Configure DRAM Timing by SPD [Enabled] Configure DRAM Timing by SPD [Enabled]...

Page 91 SouthBridge Configuration SouthBridge Configuration SouthBridge Configuration SouthBridge Configuration SouthBridge Configuration The SouthBridge Configuration menu allows you to change the Southbridge related settings. Advanced South Bridge Chipset Configuration USB Functions USB 2.0 Controller PCIE Ports Configuration PCI Express Port 0 PCI Express Port 4 PCI Express Port 5 v02.58 (C)Copyright 1985-2004, American Megatrends, Inc.

Page 92 Intel PCI-X Hub Configuration Intel PCI-X Hub Configuration Intel PCI-X Hub Configuration Intel PCI-X Hub Configuration Intel PCI-X Hub Configuration The Intel PCI-X Hub Configuration menu allows you to change the Intel PCI Express controller related settings. Advanced Configure advanced settings for PCI-X Hub I/O Port Decode VGA 16-Bit Decode...

Page 93: Onboard Devices Configuration

5.4.5 5.4.5 5.4.5 Onboard Devices Configuration Onboard Devices Configuration Onboard Devices Configuration 5.4.5 5.4.5 Onboard Devices Configuration Onboard Devices Configuration Advanced Configure W83627EHF-A Super IO Chipset Onboard Floppy Controller Serial Port1 Address Serial Port2 Address Serial Port2 Mode Parallel Port Address Parallel Port Mode Parallel Port IRQ v02.58 (C)Copyright 1985-2004, American Megatrends, Inc.

Page 94: Pci/Pnp Configuration

5.4.6 5.4.6 5.4.6 PCI/PnP Configuration PCI/PnP Configuration PCI/PnP Configuration 5.4.6 5.4.6 PCI/PnP Configuration PCI/PnP Configuration The PCI/PnP Configuration menu items allow you to change the advanced settings for PCI/PnP devices. The menu includes setting the IRQ and DMA channel resources for either PCI/PnP or legacy ISA devices, and setting the memory size block for legacy ISA devices.

Page 95: Power Menu

IRQXX assigned to [PCI Device] IRQXX assigned to [PCI Device] IRQXX assigned to [PCI Device] IRQXX assigned to [PCI Device] IRQXX assigned to [PCI Device] When set to [PCI Device], the

specific IRQ is free for use of PCI/PnP devices. When set to [Reserved], the IRQ is reserved for legacy devices.

Page 96: Apm Configuration

5.5.1 5.5.1 5.5.1 APM Configuration APM Configuration APM Configuration 5.5.1 5.5.1 APM Configuration APM Configuration APM Configuration Power Management/APM Video Power Down Mode Hard Disk Power Down Mode Standby Time Out Suspend Time Out Throttle Slow Clock Ratio System Thermal Power Button Mode Restore on AC Power Loss Resume On Ring...

Page 97 The Thermal Active Temperature Thermal Active Temperature and Thermal Slow Clock Ratio Thermal Active Temperature Thermal Active Temperature Thermal Active Temperature items appear only when the System Thermal Thermal Active Temperature [60ºC/140ºF] Thermal Active Temperature [60ºC/140ºF] Thermal Active Temperature [60ºC/140ºF] Thermal Active Temperature [60ºC/140ºF] Thermal Active Temperature [60ºC/140ºF] Allows you to specify the system thermal control activating temperature.

Page 98: Hardware Monitor

The RTC Alarm Date (Days) and System Time items appear only when the R e s u m e O n R T C A l a r m item is enabled. R e s u m e O n R T C A l a r m R e s u m e O n R T C A l a r m R e s u m e O n R T C A l a r m R e s u m e O n R T C A l a r m...

Page 99 Smart Fan Control [Smart Fan] Smart Fan Control [Smart Fan] Allows you to enable or disable the ASUS Smart Fan Control feature that smartly adjusts the fan speeds for more efficient system operation. Configuration options: [Disabled] [Smart Fan] [Smart Fan II]...

Page 100: Boot Menu

Boot menu The Boot menu items allow you to change the system boot options. Select an item then press <Enter> to display the sub-menu. Main Advanced Boot Settings Boot Priority Boot Settings Configuration Security v02.58 (C)Copyright 1985-2004, American Megatrends, Inc. 5.6.1 5.6.1 5.6.1...

Page 101: Boot Settings Configuration

Full Screen Logo [Enabled] Allows you to enable or disable the full screen logo display feature. Configuration options: [Disabled] [Enabled] Set this item to [Enabled] to use the ASUS MyLogo2™ feature. Bootup Num-Lock [On] Bootup Num-Lock [On] Bootup Num-Lock [On]...

Page 102: Security

5.6.3 5.6.3 5.6.3 Security Security Security 5.6.3 5.6.3 Security Security The Security menu items allow you to change the system security settings. Select an item then press <Enter> to display the configuration options. Security Settings Supervisor Password User Password Change Supervisor Password Change User Password v02.58 (C)Copyright 1985-2004, American Megatrends, Inc.

Page 103 After you have set a supervisor password, the other items appear to allow you to change other security settings. Security Settings Supervisor Password : Installed User Password : Not Installed Change Supervisor Password User Access Level Change User Password Clear User Password Password Check v02.58 (C)Copyright 1985-2004, American Megatrends, Inc.

Page 104 Clear User Password Clear User Password Clear User Password Clear User Password Clear User Password Select this item to clear the user password. Password Check [Setup] Password Check [Setup] Password Check [Setup] Password Check [Setup] Password Check [Setup] When set to [Setup], BIOS checks for user password when accessing the Setup utility.

Page 105: Exit Menu

Exit menu The Exit menu items allow you to load the optimal or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items. Main Advanced Security Exit Options Exit & Save Changes Exit & Discard Changes Discard Changes Load Setup Defaults v02.58 (C)Copyright 1985-2004, American Megatrends, Inc.

Page 106 Load Setup Defaults Load Setup Defaults Load Setup Defaults Load Setup Defaults Load Setup Defaults Select this option then press <Enter> to load the optimized settings for

each of the Setup menu items. When a confirmation window appears, select [OK] then press <Enter> to load the default settings.

Page 107 Chapter 6 This chapter provides instructions for setting up, creating, and configuring RAID sets using the available utilities. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 108: Setting Up Raid

Setting up RAID The Intel ® ICH7R Southbridge chip comes with the L S I L o g i c E m b e d d e d S A T A R A I D U t i l i t y S A T A R A I D U t i l i t y and the I n t e l S A T A R A I D U t i l i t y S A T A R A I D U t i l i t y...

Page 109: Installing Hard Disk Drives

6.1.2 6.1.2 6.1.2 6.1.2 6.1.2 Installing hard disk drives Installing hard disk drives Installing hard disk drives Installing hard disk drives Installing hard disk drives The system supports two hot-swap Serial ATA hard disk drives for RAID configuration. By default, the SATA hard disk drives are connected to the motherboard SATA1 (Port0) and SATA3 (Port1) connectors via the SATA backplane and SATA cables.

Page 110: Lsi Logic Embedded Sata Raid Setup Utility

LSI Logic Embedded SATA RAID Setup Utility The LSI Logic Embedded SATA RAID Setup Utility allows you to create RAID 0, RAID 1, or RAID 10 set(s) from SATA hard disk drives supported by the motherboard ICH7R Southbridge chip. To enter the LSI Logic Embedded SATA RAID Setup Utility: Turn on the system after installing all the SATA hard disk drives.

Page 111: Creating A Raid 0 Or Raid 1 Set

M e n u M e n u M e n u M e n u M e n u D e s c r i p t i o n D e s c r i p t i o n D e s c r i p t i o n D e s c r i p t i o n D e s c r i p t i o n...

Page 112 The ARRAY SELECTION MENU ARRAY SELECTION MENU displays the available drives connected ARRAY SELECTION MENU ARRAY SELECTION MENU ARRAY SELECTION MENU to the SATA ports. Select the drives you want to include in the RAID set, then press <SpaceBar>. When selected, the drive indicator changes from R E A D Y R E A D Y R E A D Y to ONLIN A[X]-[Y]...

Page 113 Press <F10>, select the configurable array, then press <SpaceBar>. The logical drive information appears including a Logical Drive menu that allows you to change the logical drive parameters. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 114 Select R A I D R A I D R A I D R A I D from the L o g i c a l D r i v e R A I D Select the RAID level from the menu, then press <Enter>. You need at least two identical hard disk drives when creating a RAID 1 set.

Page 115 10. When finished setting the selected logical drive configuration, select A c c e p t A c c e p t A c c e p t A c c e p t from the menu, then press <Enter>. A c c e p t 11.

Page 116 Using New Configuration Using New Configuration Using New Configuration Using New Configuration Using New Configuration When a RAID set is already existing, using the N e w C o n f i g u r a t i o n command erases the existing RAID configuration data.

Page 117: Creating A Raid 10 Set

6.2.2 6.2.2 6.2.2 Creating a RAID 10 set Creating a RAID 10 set Creating a RAID 10 set 6.2.2 6.2.2 Creating a RAID 10 set Creating a RAID 10 set You can create a RAID 10 set using four identical hard disk drives. To create a RAID 10 set using the E a s y C o n f i g u r a t i o n From the utility main menu, highlight C o n f i g u r e Use the arrow keys to select Easy Configuration...

Page 118 Select all the drives required for the RAID 10 set, then press <Enter>. The configurable array appears on screen. Press <F10>, select the configurable array, then press <SpaceBar>. The logical drive information appears including a Logical Drive menu that allows

you to change the logical drive parameters. 6 - 1 2 6 - 1 2 6 - 1 2...

Page 119 Select R A I D R A I D R A I D R A I D from the L o g i c a l D r i v e R A I D Select RAID 10 from the menu, then press <Enter>. You need at least four identical hard disk drives when creating a RAID 10 set.

Page 120 10. When finished setting the selected logical drive configuration, select A c c e p t A c c e p t A c c e p t A c c e p t A c c e p t from the menu, then press <Enter>. 11.

Page 121: Adding Or Viewing A Raid Configuration

6.2.3 6.2.3 6.2.3 Adding or viewing a RAID configuration Adding or viewing a RAID configuration Adding or viewing a RAID configuration 6.2.3 6.2.3 Adding or viewing a RAID configuration Adding or viewing a RAID configuration You can add a new RAID configuration or view an existing configuration using the V i e w / A d d C o n f i g u r a t i o n V i e w / A d d C o n f i g u r a t i o n command.

Page 122 Select all the drives required for the RAID set, then press <Enter>. The configurable array appears on screen. Press <F10>, select the configurable array, then press <SpaceBar>. The logical drive information appears including a Logical Drive menu that allows you to change the logical drive parameters. 6 - 1 6 6 - 1 6 6 - 1 6...

Page 123 Follow steps 6 to 7 of the C r e a t i n g a R A I D s e t : U s i n g E a s y C o n f i g u r a t i o n C o n f i g u r a t i o n C o n f i g u r a t i o n C o n f i g u r a t i o n section.

Page 124: Initializing The Logical Drives

6.2.4 6.2.4 6.2.4 Initializing the logical drives Initializing the logical drives Initializing the logical drives 6.2.4 6.2.4 Initializing the logical drives Initializing the logical drives After creating the RAID set(s), you must initialize the logical drives. You may initialize the logical drives of a RAID set(s) using the I n i t i a l i z e command on the Management Menu.

Page 125 When prompted, press the <SpaceBar> to select Y e s I n i t i a l i z e ? I n i t i a l i z e ? I n i t i a l i z e ? I n i t i a l i z e ? dialog box, then press <Enter>.

Page 126 When initialization is completed, press <Esc>. Using the Objects command Using the Objects command Using the Objects command Using the Objects command Using the Objects command To initialize the logical drives using the O b j e c t s From the Management Menu, highlight O b j e c t s 6 - 2 0 6 - 2 0...

Page 127: Logical Drive

Select Logical Drive Logical Drive Logical Drive Logical Drive from the O b j e c t s Logical Drive Select the logical drive to initialize from the L o g i c a l D r i v e s then press <Enter>.

Page 128 When prompted, press the <SpaceBar> to select Y e s I n i t i a l i z e ? I n i t i a l i z e ? I n i t i a l i z e ? dialog box, then press <Enter>. You may also press <F10> I n i t i a l i z e ? I n i t i a l i z e ? to initialize the drive without confirmation.

Page 129: Rebuilding Failed Drives

6.2.5 6.2.5 6.2.5 Rebuilding failed drives Rebuilding failed drives Rebuilding failed drives 6.2.5 6.2.5 Rebuilding failed drives Rebuilding failed drives You can manually rebuild failed hard disk drives using the R e b u i l d in the Management Menu. To rebuild a failed hard disk drive: From the Management Menu, highlight R e b u i l d The P H Y S I C A L D R I V E S S E L E C T I O N M E N U...

Page 130 After selecting the drive to rebuild, press <F10>. The indicator for the selected drive now shows R B L D When prompted, press <Y> to to rebuild the drive. When rebuild is complete, press any key to continue. 6 - 2 4 6 - 2 4 6 - 2 4 6 - 2 4...

Page 131: Checking The Drives For Data Consistency

6.2.6 6.2.6 6.2.6 Checking the drives for data consistency Checking the drives for data consistency Checking the drives for data consistency 6.2.6 6.2.6 Checking the drives for data consistency Checking the drives for data consistency You can check and verify the accuracy of

data redundancy in the selected logical drive.

Page 132 When prompted, press the <SpaceBar> to select Y e s C o n s i s t e n c y C h e c k C o n s i s t e n c y C h e c k C o n s i s t e n c y C h e c k C o n s i s t e n c y C h e c k C o n s i s t e n c y C h e c k dialog box, then press <Enter>.

Page 133 Using the Objects command Using the Objects command Using the Objects command Using the Objects command To check data consistency using the O b j e c t s From the Management Menu, select Objects from the menu. Use the arrow keys to select the logical drive you want to check, then press <Enter>.

Page 134: Deleting A Raid Configuration

6.2.7 6.2.7 6.2.7 Deleting a RAID configuration Deleting a RAID configuration Deleting a RAID configuration 6.2.7 6.2.7 Deleting a RAID configuration Deleting a RAID configuration To delete a RAID configuration: From the Management Menu, select Configure then press <Enter>. When prompted, press the <SpaceBar> to select Y e s C o n f i g u r a t i o n ? C o n f i g u r a t i o n ? C o n f i g u r a t i o n ?

Page 135: Selecting The Boot Drive From A Raid Set

6.2.8 6.2.8 6.2.8 Selecting the boot drive from a RAID set Selecting the boot drive from a RAID set Selecting the boot drive from a RAID set 6.2.8 6.2.8 Selecting the boot drive from a RAID set Selecting the boot drive from a RAID set You must have created a new RAID configuration before you can select the boot drive from a RAID set.

Page 136: Enabling The Writecache

6.2.9 6.2.9 6.2.9 Enabling the WriteCache Enabling the WriteCache Enabling the WriteCache 6.2.9 6.2.9 Enabling the WriteCache Enabling the WriteCache You may enable the RAID controller’s W r i t e C a c h e data transmission performance. When you enable WriteCache, you may lose data when a power interruption occurs while transmitting or exchanging data among the drives.

Page 137: Intel ® Matrix Storage Manager Option Rom Utility

Intel ® Matrix Storage Manager Option ROM Utility The Intel ® Matrix Storage Manager Option ROM utility allows you to create RAID 0, RAID 1, RAID 0+1, and RAID 5 set(s) from Serial ATA hard disk drives. To enter the Intel ®...

Page 138: Creating A Raid 0 Set (Stripe)

6.3.1 6.3.1 6.3.1 Creating a RAID 0 set (Stripe) Creating a RAID 0 set (Stripe) Creating a RAID 0 set (Stripe) 6.3.1 6.3.1 Creating a RAID 0 set (Stripe) Creating a RAID 0 set (Stripe) To create a RAID 0 set: From the utility main menu, select 1 .

Page 139 Use the up/down arrow key to select the stripe size for the RAID 0 array, then press <Enter>. The available stripe size values range from 4 KB to 128 KB. The default stripe size is 128 KB. A lower stripe size is recommended for server systems. A higher stripe size is recommended for multimedia computer systems used mainly for audio and video editing.

Page 140: Creating A Raid 1 Set (Mirror)

6.3.2 6.3.2 6.3.2 Creating a RAID 1 set (Mirror) Creating a RAID 1 set (Mirror) Creating a RAID 1 set (Mirror) 6.3.2 6.3.2 Creating a RAID 1 set (Mirror) Creating a RAID 1 set (Mirror) To create a RAID 1 set: From the utility main menu, select 1 .

Page 141: Creating A Raid 10 Set (Stripe + Mirror)

6.3.3 6.3.3 6.3.3 Creating a RAID 10 set (Stripe + Mirror) Creating a RAID 10 set (Stripe + Mirror) Creating a RAID 10 set (Stripe + Mirror) 6.3.3 6.3.3 Creating a RAID 10 set (Stripe + Mirror) Creating a RAID 10 set (Stripe + Mirror) To create a RAID 10 set: From the utility main menu, select 1 .

Page 142: Creating A Raid 5 Set (Parity)

6.3.4 6.3.4 6.3.4 Creating a RAID 5 set (Parity) Creating a RAID 5 set (Parity) Creating a RAID 5 set (Parity) 6.3.4 6.3.4 Creating a RAID 5 set (Parity) Creating a RAID 5 set (Parity) To create a

RAID 5 set: From the utility main menu, select 1 .

Page 143: Deleting A Raid Set

6.3.5 6.3.5 6.3.5 Deleting a RAID set Deleting a RAID set Deleting a RAID set 6.3.5 6.3.5 Deleting a RAID set Deleting a RAID set Take caution when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set.

Page 144: Resetting Disks To Non-Raid

6.3.6 6.3.6 6.3.6 Resetting disks to Non-RAID Resetting disks to Non-RAID Resetting disks to Non-RAID 6.3.6 6.3.6 Resetting disks to Non-RAID Resetting disks to Non-RAID Take caution before you reset a RAID volume hard disk drive to non-RAID. Resetting a RAID volume hard disk drive deletes all internal RAID structure on the drive.

Page 145: Global Array Manager

Global Array Manager You may also create a RAID set(s) in Windows the Global Array Manager (GAM) application. The GAM application is available from the motherboard support CD. Refer to the GAM user guide in the motherboard support CD for details. Rebuilding the RAID This option is only for the RAID 1, RAID 5 and RAID 10 level.

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After selecting, the volumes with “Rebuild” status will be rebuilt within the operating system. Exit the SATA RAID utility. When operating system is running, select the Intel Matrix Storage Console from the Start Menu or click the Intel Matrix Storage Manager tray icon. From the View menu, select ‘Advanced Mode’...

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After selecting, the volumes with “Rebuild” status will be rebuilt within the operating system. Exit the SATA RAID utility. When the operating system is running, select the Intel Matrix Storage Console from the Start Menu or click the Intel Matrix Storage Manager tray icon. From the View menu, select ‘Advanced Mode’...

Page 148: Setting The Boot Array Use Mb Bios Setup Utility

Setting the Boot array use MB BIOS Setup Utility When creating multi-raid via Intel(r) Matrix Storage Manager RAID, we would like to assign one array to be the boot drive. The following shows as the status of current arrays: Re-boot the system and press <Del> to enter the Motherboard BIOS Setup Utility during POST.

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Chapter 7 This chapter provides instructions for installing the necessary drivers for different system components. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 150: Chapter 7: Driver Installation

RAID driver installation After creating the RAID sets for your server system, you are now ready to install an operating system to the independent hard disk drive or bootable array. This part provides instructions on how to install the RAID controller drivers during OS installation.

Page 151: Installing The Raid Controller Driver

7.1.2 7.1.2 7.1.2 Installing the RAID controller driver Installing the RAID controller driver Installing the RAID controller driver 7.1.2 7.1.2 Installing the RAID controller driver Installing the RAID controller driver Windows Windows Windows ® ® ® ® ® 2000/2003 Server OS 2000/2003 Server OS 2000/2003 Server OS Windows...

Page 152

Insert the RAID driver disk you created earlier to the floppy disk drive, then press <Enter>. There are two items to select : LSI Logic SATA RAID LSI Logic SATA RAID LSI Logic SATA RAID LSI Logic SATA RAID LSI Logic SATA RAID Select “...

Page 153

Intel Matrix Storage Intel Matrix Storage Intel Matrix Storage Intel Matrix Storage Intel Matrix Storage Select Intel(R) 82801GR/GH SATA RAID Controller (Desktop ICH7RDH) for Intel Matrix Storage RAID mode from the list, then press <Enter>. If configure SATA as AHCI Mode in the BIOS setup utility of IDE Configuration, you need to install Intel SATA AHCI Driver during windows setup.

Page 154

T o a n e x i s t i n g W i n d o w s T o a n e x i s t i n g W i n d o w s T o a n e x i s t i n g W i n d o w s T o a n e x i s t i n g W i n d o w s T o a n e x i s t i n g W i n d o w s To install

the RAID controller driver on an existing Windows...

Page 155: The Menu

To verify the RAID controller driver installation: Right-click the M y C o m p u t e r M y C o m p u t e r M y C o m p u t e r icon on the Windows M y C o m p u t e r M y C o m p u t e r select P r o p e r t i e s...

Page 156 Red Hat Red Hat ® ® ® ® ® Enterprise AS4.0 update 2 Enterprise AS4.0 update 2 Red Hat Red Hat Red Hat Enterprise AS4.0 update 2 Enterprise AS4.0 update 2 Enterprise AS4.0 update 2 To install the Intel ® when installing Red Hat Boot the system from the Red Hat At the boot:, type linux dd , then press <Enter>.

Page 157 Select Y e s Y e s using the <Tab> key when asked if you have the driver disk. Y e s Y e s Y e s Press <Enter> Select s d a s d a s d a using the <Tab> key when asked to select the driver disk s d a s d a source.

Page 158 When prompted, insert the Red Hat driver disk to the floppy disk drive, select O K , The drivers for the RAID controller are installed to the system. When asked if you will load additional RAID controller drivers, select N o then press <Enter>.

Page 159 SuSE Linux 9 SP2 SuSE Linux 9 SP2 SuSE Linux 9 SP2 SuSE Linux 9 SP2 SuSE Linux 9 SP2 To install the RAID controller driver when installing SuSE Linux OS: Boot the system from the SuSE Installation CD. Select Installation from the B o o t O p t i o n s A message instructs you to prepare the RAID driver disk.

Page 160 When prompted, insert the RAID driver disk to the floppy disk drive, then press <Enter>. When prompted, select the floppy disk drive (fd0) as the driver update medium, select OK, then press <Enter>. The drivers for the RAID controller are installed to the system. 7 - 1 2 7 - 1 2 7 - 1 2...

Page 161: Lan Driver Installation

LAN driver installation This section provides instructions on how to install the Broadcom LAN controller drivers. 7.2.1 7.2.1 Windows Windows ® ® ® ® ® 7.2.1 7.2.1 7.2.1 Windows Windows Windows To install the Broadcom ® 2003 Server OS: Restart the computer, then log on with A d m i n i s t r a t o r Insert the motherboard/system support CD to the optical drive.

Page 162: Enterprise Ver. 3.0

Click N e x t N e x t N e x t N e x t N e x t when the InstallShield Wizard window appears. Follow screen instructions to continue installation. 7.2.2 7.2.2 Red Hat Red Hat 7.2.2 7.2.2 7.2.2 Red Hat...

Page 163: Vga Driver Installation

VGA driver installation This section provides instructions on how to install the ATI Graphics Adapter (VGA) driver. 7.3.1 7.3.1 7.3.1 Windows Windows Windows ® ® ® ® ® 7.3.1 7.3.1 Windows Windows You need to manually install the ATI 2000 Server operating system. To install the ATI ®...

Page 164: Server

7.3.2 7.3.2 7.3.2 Windows Windows Windows 7.3.2 7.3.2 Windows Windows The Windows ® 2003 Server operating system automatically recognizes the ® RAGE XL VGA driver during system installation. There is no need to install an additional driver(s) to support the onboard VGA. 7.3.3 7.3.3 7.3.3...

Page 165: Management Applications And Utilities Installation

The support CD that came with the motherboard package contains the drivers, management applications, and utilities that you can install to avail all motherboard features. The contents of the support CD are subject to change at any time without notice. Visit the ASUS website (www.asus.com) for updates. 7.4.1 7.4.1 7.4.1...

Page 166: Management Software Menu

C o n t a c t tab to C o n t a c t C o n t a c t display the ASUS contact information. You can also

find this information on the inside front cover of this user guide.

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Appendix This appendix includes additional information that you may refer to when configuring the motherboard. A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 168: Appendix: Reference Information

32-bit operating systems. • The motherboard comes with a BIOS file that supports EM64T. You can download the latest BIOS file from the ASUS website (www.asus.com/support/download/) if you need to update the BIOS file. See Chapter 5 for details.

Page 169: Using The Eist

A.2.2 A.2.2 A.2.2 Using the EIST Using the EIST Using the EIST A.2.2 A.2.2 Using the EIST Using the EIST To use the EIST feature: Turn on the computer, then enter the BIOS Setup. A d v a n c e d M e n u A d v a n c e d M e n u Go to the A d v a n c e d M e n u A d v a n c e d M e n u...

Page 170: Intel Hyper-Threading Technology

Intel • The motherboard supports Intel Hyper-Threading Technology. • Hyper-Threading Technology is supported under Windows and Linux 2.4.x (kernel) and later versions only. Under Linux, use the Hyper-Threading compiler to compile the code. If you are using any other operating systems, disable the Hyper-Threading Techonology item in the BIOS to ensure system stability and performance.

Page 171: Block Diagram

Block diagram Intel ¤ Intel Memory DDR2 533/667 Controller Hub DIMM Sockets (E7230) X8 PCI-E DMI interface PCI 33 bus ¤ Intel Controller7R (ICH7R) X4 PCI-E X1 PCI-E X1 PCI-E SMBus SATA II LPC-Bus W83627EHG-A USB 1-8 PS2 KB/MS Serial Port A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4 A S U S R S 1 2 0 - E 3 / P A 4...

Page 172: General Description

Power supply specifications A.1.1 A.1.1 General description General description A.1.1 A.1.1 A.1.1 General description General description General description The 400 W SSI-type single power supply with universal AC input includes PFC and ATX-compliant output cables and connectors. The power supply has four plugs labeled P1 to P4.

This manual is also suitable for:

Rs120-e3/pa4