



# Asus RS520-E8-RS8 V2 User Manual



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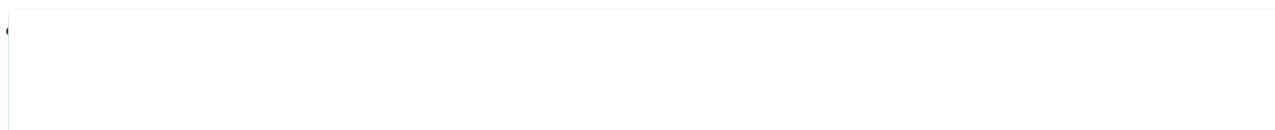
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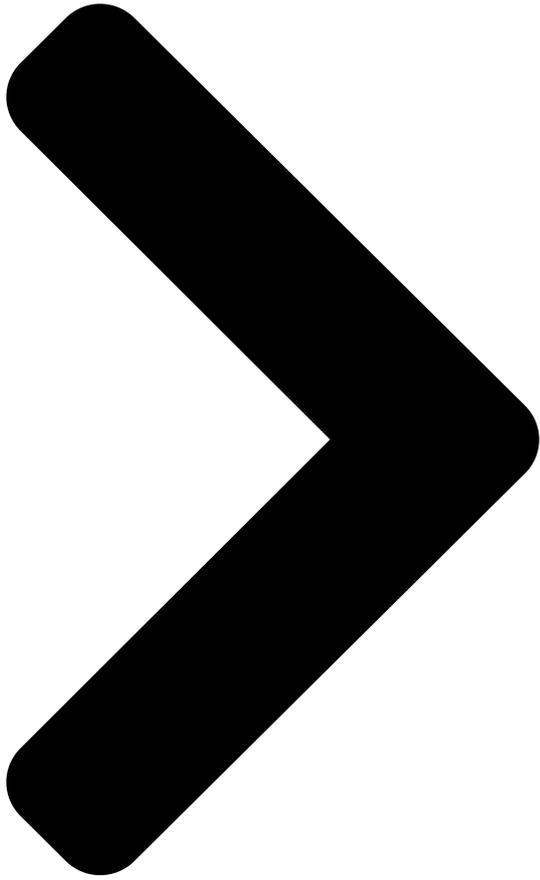
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Server User Guide



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# Summary of Contents for Asus RS520-E8-RS8 V2

[Page 1](#) RS520-E8-RS8 V2 RS520-E8-RS12-EV2 Server User Guide...

[Page 2](#) ASUSTeK COMPUTER INC. (“ASUS”). ASUS provides this manual “as is” without warranty of any kind, either express or implied, including but not limited to the implied warranties or conditions of merchantability or fitness for a particular purpose. In no...

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## [Page 7: Notices](#)

Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003. REACH Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework, we publish the chemical substances in our products at ASUS REACH website at <http://csr.asus.com/english/REACH.htm>.

## [Page 8: Safety Information](#)

Safety information 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: Australia Statement Notice](#)

If you require assistance please call ASUS Customer Service 1300 2787 88 or visit us at <http://support.asus.com...>

## [Page 10: About This Guide](#)

About this guide Audience This user guide is intended for system integrators, and experienced users with at least basic knowledge of configuring a server. Contents This guide contains the following parts: Chapter 1: Product Introduction This chapter describes the general features of the server, including sections on front panel and rear panel specifications.

[Page 11](#) Refer to the following sources for additional information, and for product and software updates. ASUS Server Web-based Management (ASWM) user guide This manual tells how to set up and use the proprietary ASUS server management utility. ASUS websites The ASUS websites worldwide provide updated information for all ASUS hardware and...

## [Page 13: Chapter 1: Product Introduction](#)

Chapter 1: Product Introduction Product Introduction This chapter describes the motherboard

features and the new technologies it supports.

## [Page 14: System Package Contents](#)

Check your system package for the following items. Model Name RS520-E8-RS12-EV2 RS520-E8-RS8 V2 Chassis ASUS 2U Rackmount Chassis ASUS F 2U Rackmount Chassis Motherboard ASUS Z10PR-D16 Server Board 1 x 770W Redundant Power Supply 1 x 770W Redundant Power Supply 8 x Hot-swap 3.5-inch HDD Trays 12 x Hot-swap 3.5-inch HDD Trays...

## [Page 15: Serial Number Label](#)

Serial number label Before requesting support from the ASUS Technical Support team, you must take note of the product's serial number containing 12 characters such as xx50xxxxxxx shown as the figure below. With the correct serial number of the product, ASUS Technical Support team members can then offer a quicker and satisfying solution to your problems.

## [Page 16: System Specifications](#)

1.3 System specifications The ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 is a 1U barebone server system ® ® featuring the ASUS Z10PR-D16 Server Board. The server supports Intel LGA2011-3 Intel ® Xeon E5-2600 Processor v3 plus other latest technologies through the chipsets onboard.

[Page 17](#) ® RedHat Enterprise Linux CentOS OS Support Ubuntu VMWare Citrix XenServer \* Support versions are subject to change without notice. Refer to [www.asus.com](http://www.asus.com) for updates. Software ASWM Enterprise Management Out of Band Solution Remote ASMB8-iKVM for KVM-over-Internet Management Dimension (HH x WW x DD)

## [Page 18: 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, and USB ports for each Node are located on the front panel. Refer to the 1.7.1 Front panel LEDs section for the LED descriptions. Turn off the system power and detach the power supply before removing or replacing any system component.

## [Page 19: Rear Panel Features](#)

Serial port (optional) Mezzanine 10G dual-port LAN card (optional) Redundant power supply DM management LAN port\* Power connector 2 x USB 3.0 ports LAN port 1 This port is for ASUS ASMB8-iKVM controller and for technicians only. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 20](#) The Asset tag is a simple but useful device that is conveniently located on the front panel of the server that you can pull out or easily slide back in. It has a piece of paper that allows you to write down important information about the server. RS520-E8-RS8 V2 RS520-E8-RS12-EV2 Chapter 1: Product Introduction...

## [Page 21: 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. \*WARNING HAZARDOUS MOVING PARTS KEEP FINGERS AND OTHER BODY PARTS AWAY ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 22](#) RS520-E8-RS12-EV2 Redundant power supply Hot-swap 2.5-inch SSD Bay ASUS Z10PR-D16 Server Board SAS back panel Front USB I/O panel System fans Front LED panel Asset Tag Hot-swap 3.5-inch HDD Bay Turn off the system power and detach the power supply before removing or replacing any system component.

## [Page 23: Led Information](#)

Blinking LAN is transmitting or receiving data LAN connection is present LAN LEDs Blinking LAN is transmitting or receiving data RESET Location switch is pressed Location Normal status (Press the location switch again to turn off) 1-11 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 24: Lan \(Rj-45\) Leds](#)

1.7.2 LAN (RJ-45) LEDs SPEED LED ACT/LINK LED SPEED LED ACT/LINK LED ACT/LINK LED SPEED LED Status Description Status Description No link 10 Mbps connection GREEN Linked ORANGE

100 Mbps connection BLINKING Data activity GREEN 1 Gbps connection 1.7.3 HDD status LED  
HDD status LED HDD activity LED HDD LED Description...

## [Page 25: Chapter 2: Hardware Information](#)

Chapter 2: Hardware Information Hardware Information This chapter lists the hardware setup procedures that you have to perform when installing or removing system components.

## [Page 26: Chassis Cover](#)

Chassis cover 2.1.1 Removing the rear cover Loosen the two thumbscrews on the rear panel to release the rear cover from the chassis. There is no need to remove the thumbscrews, just loose them. Screws Firmly hold the rear cover and slide it towards the back panel for about half an inch to the front cover.

## [Page 27: Central Processing Unit \(Cpu\)](#)

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 shoulders the repair cost only if the damage is shipment/transit- related.

[Page 28](#) Locate the CPU socket on the motherboard. Before installing the CPU, ensure that the socket box is facing toward you and the triangle mark is on the lower-left position. Triangle mark Press the right load lever down (A) then move it to the left (B) until it is released from the retention tab (C).

[Page 29](#) Gently push the right load lever down to slightly lift the load plate (G). Do not insert the load lever into the retention tab. Hold the edge then gently lift the load plate (H). edge of the Load plate Load plate Load lever ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 30](#) Get the CPU. Align and position the CPU over the socket ensuring that the triangle mark on the CPU matches the triangle mark on the socket box. Install the CPU into the slot. The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the CPU pins on the socket.

[Page 31](#) Push the right load lever down (K) ensuring that the edge of the load plate is fixed and tucked securely under the lever (L), then insert the right load lever under the retention tab (M). edge of load plate Load lever Retention tab ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 32](#) Apply some Thermal Interface Material to the exposed area of the CPU that the heatsink will be in contact with. • Ensure that the Thermal Interface Material is spread in an even thin layer. • Some heatsinks come with pre-applied Thermal Interface Material.

## [Page 33: System Memory](#)

NVDIMM into the DIMM sockets using the memory configurations in this section. • Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor. • Start installing the DIMMs in slots A2 or B2. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 34](#) Single CPU configuration You can refer to the following recommended memory population for a single CPU configuration. Single CPU configuration (must be installed on CPU1)  
DIMM 1 DIMM 1 DIMM 2 DIMMs 4 DIMMs 8 DIMMs Dual CPU configuration You can refer to the following recommended memory population for a dual CPU configuration. Dual CPU configuration DIMM (CPU1) DIMM (CPU2)

## [Page 35: Installing A Dimm](#)

DIMM. Remove the DIMM from the socket. Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with extra force. 2-11 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 36: Hard Disk Drives](#)

Hard disk drives The system supports 8 (RS520-E8-RS8 V2) or 12 (RS520-E8-RS12-EV2) hot-swap 3.5-inch SATAII/SAS hard disk drives. Two hot-swap 2.5-inch hard disk drives are supported on the rear panel of RS520-E8-RS12-EV2. The hard disk drive installed on the drive

tray connects to the motherboard SATAII/SAS ports via SATAII/SAS backplane.

### [Page 37: Installing A 2.5-Inch Ssd \(Rs520-E8-Rs12-Ev2 Only\)](#)

Installing a 2.5-inch SSD (RS520-E8-RS12-EV2 only) To install a 2.5-inch SSD: Press the spring lock to release the tray lever. Tray lever Spring lock Firmly hold the tray lever then pull the drive tray out of the bay. 2-13 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 38](#) Release the screws on each side of the support beam drive tray to release the drive tray metal beam. Orient and place the SSD into the tray. Ensure that the SSD is fitted firmly inside the drive tray and that the four screws of the SSD matches the four screws holes of the drive tray.

### [Page 39: Expansion Slot](#)

Expansion slot The barebone server comes with two riser card brackets allowing you to install Low-Profile PCI Express expansion cards. The steps below are only for RS520-E8-RS8 V2. 2.5.1 Installing an expansion card to the PCI-E slot To install an expansion card: Remove two screws on the bracket and put it aside.

[Page 40](#) Insert the expansion card into the PCI-E slot. Ensure that the golden fingers are totally inserted into the slot. Secure it with the screws removed before. Reinstall the bracket. Secure it with two screws to complete the installation. 2-16 Chapter 2: Hardware Information...

### [Page 41: Installing An Asus Pike Ii Card \(Rs520-E8-Rs8 Only\)](#)

2.5.2 Installing an ASUS PIKE II card (RS520-E8-RS8 only) You can install an ASUS PIKE II card on the provided PCI-E slot onboard. To install an ASUS PIKE II card: Remove the default cable from the motherboard and the backplane.

[Page 42](#) Remove the bracket and remove the screws that secure the metal cover to the chassis. Remove the metal cover then set it aside for future use. 2-18 Chapter 2: Hardware Information...

[Page 43](#) Insert the expansion card into the PCI-E slot. Ensure that the golden fingers are totally inserted into the slot. Secure the ASUS PIKE II card with the screw removed before and reinstall the bracket, then connect the two mini-SAS HD cables to the ASUS PIKE II card.

[Page 44](#) Secure the bracket with the two bracket screws removed before. Connect connector 1 on the ASUS PIKE II card to connector 1 on the backplane and connector 2 on the ASUS PIKE II card to connector 2 on the backplane using two mini- SAS HD cables.

### [Page 45: Installing An M.2 Expansion Card](#)

- Please pay attention when removing the screw, the stand screw might be removed together with it.
- Ensure that the M.2 card is positioned between the screw and the stand screw before securing it.

2-21 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 46: Installing A Mezzanine Card](#)

2.5.4 Installing a Mezzanine card You can install a supported Mezzanine card on the onboard slot. To install a Mezzanine card: Remove the slot bay from the Mezzanine card expansion slot. Prepare your Mezzanine card and the signal cable. Connect the signal transmission end (white) to the AUXLED\_CON header on the card.

[Page 47](#) Connect the signal end (black) to the OCP\_LED1 header on the motherboard. OCP\_LED1 The two ends of the signal cable are different in size and color for easy recognition. Please refer to your exact cable. 2-23 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 48: Configuring An Expansion Card](#)

2.5.5 Configuring an expansion card After installing the expansion card, configure it by adjusting the software settings. Turn on the system and change the necessary BIOS settings, if any. See Chapter 5 for information on BIOS setup. Assign an IRQ to the card. Refer to the following tables. Install the software drivers for the expansion card.

## [Page 49: Cable Connections](#)

USB connector (from motherboard to front I/O board) SATA ports connectors (system default; from motherboard to SATA/SAS backplane) System auxiliary panel connector (from motherboard to front I/O board) System panel connector (from motherboard to front I/O board) 2-25 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 50: Backplane Cabling](#)

Backplane cabling RS520-E8-RS8 V2 connect to mini-SAS HD connectors 1 and 2 on the backplane. With connect to the 8-pin two mini-SAS HD cables connected, a total number of 8 SAS/SATA power connector HDDs can be supported (SAS/SATA expander on the rear panel).

[Page 51](#) HDDs can be supported (SAS/SATA expander on the rear panel). MSAS\_HD1 MSAS\_HD2 BP12EX12G-35-R2DF ® MSAS\_HD3 Reserved for future expansions BP12EX12G-35-R2DF ® BPSMB1: connect to the SMB(6-1 pin FPSMB) connector on the auxiliary panel 2-27 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 52: Removable/Optional Components](#)

Removable/optional components This section explains how to install optional components into the system and covers the following components: System fans Slim type optical drive (optional) Redundant power supply module (optional) Ensure that the system is turned off before removing any components. 2.8.1 System fans To uninstall the system fans:...

[Page 53](#) 2.8.2 Slim optical drive (optional, for RS520-E8-RS8 V2 only) To install the optional optical drive: Remove 2 screws that secure the slim optical drive cover to the chassis. Secure two screws on each side of the optical drive to secure it into the expansion bracket.

[Page 54](#) To remove or uninstall the slim type optical disk drive: Locate the optical drive eject latch at the back of the optical drive bay. Press the optical drive eject latch to the right then push the slim type optical drive towards the front panel. 2-30 Chapter 2: Hardware Information...

## [Page 55: Redundant Power Supply Module](#)

Press the secure tab to the left using your thumb, and hold the power supply module lever using other fingers. Pull the power supply module out of the system chassis ( Insert the replacement power supply module into the chassis. 2-31 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 56](#) 2-32 Chapter 2: Hardware Information...

## [Page 57: Chapter 3: Installation Options](#)

Chapter 3: Installation Options Installation Options This chapter describes how to install the optional components and devices into the barebone server.

## [Page 58: Tool-Less Friction Rail Kit](#)

Tool-less Friction Rail Kit The tool-less design of the rail kit allows you to easily install the rack rails into the server rack without the need for additional tools. The kit also comes with a metal stopping bracket that can be installed to provide additional support and stability to the server. The tool-less rail kit package includes: Set of screws Fixing latches...

[Page 59](#) Perform steps 3 to 5 for the other rack rail. Ensure that the installed rack rails (left and right) are aligned, secured, and stable in place. Lift the server chassis and insert into the rack rail. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 60](#) We strongly recommend that at least two able-bodied persons perform the steps described in this guide. • We recommend the use an appropriate lifting tool or device, if necessary. RS520-E8-RS8 V2 Front View RS520-E8-RS12-EV2 Front View Chapter 3: Installation Options...

## [Page 61: Chapter 4: Motherboard Information](#)

Chapter 4: Motherboard Information Motherboard Information This chapter includes the motherboard layout and brief descriptions of the jumpers and internal connectors.

## [Page 62: Motherboard Layout](#)

Motherboard layout Layout contents Jumpers Page Clear RTC RAM (3-pin CLRTC1) VGA controller setting (3-pin VGA\_SW1) LAN controller setting (3-pin LAN\_SW1, LAN\_SW2) ME firmware force recovery setting (3-pin ME\_RCVR1) DDR4 thermal event setting (3-pin DIMMTRIP1) RAID configuration utility selection (3-pin RAID\_SEL1) BMC Setting (3-pin BMC\_EN1) Chapter 4: Motherboard Information...

[Page 63](#) Baseboard Management Controller LED (BMCLED1) 4-18 CPU Warning LED (ERRCPU1, ERRCPU2) 4-19 Location LED (LOCLED1) 4-19 Memory error LED (MEMERRA1, MEMERRA2, MEMERRB1, MEMERRB2, MEMERRC1, MEMERRC2, MEMERRD1, MEMERRD2, MEMERRE1, MEMERRE2, EMERRF1, 4-20 MEMERRF2, MEMERRG1, MEMERRG2, MEMERRH1, MEMERRH2) CATT LED (CATTERR\_LED1) 4-20 Message LED (MESLED1) 4-21 OCPPLAN Activity LED connector (4-pin OCP\_LED1) 4-21 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 64: Jumpers](#)

Jumpers Clear RTC RAM (3-pin CLRTC1) 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 includes system setup information such as system passwords. To erase the RTC RAM: Turn OFF the computer and unplug the power cord. Move the jumper cap from the default pins 1-2 to pins 2-3. Keep the cap on pins 2-3 for about 5 to 10 seconds, then move the cap back to pins 1-2. Plug the power cord and turn ON the computer. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data. DO NOT remove the cap on CLRTC jumper default position except when clearing the RTC RAM. Removing the cap will cause system boot failure! If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After the CMOS clearance, reinstall the battery. Chapter 4: Motherboard Information...

## [Page 65: Vga Controller Setting \(3-Pin Vga\\_Sw1\)](#)

VGA controller setting (3-pin VGA\_SW1) This jumper allows you to enable or disable the onboard VGA controller. Set to pins 1-2 to activate the VGA feature. LAN controller setting (3-pin LAN\_SW1, LAN\_SW2) These jumpers allow you to enable or disable the onboard LAN\_SW1 or LAN\_SW2. Set to pins 1-2 to activate the Gigabit LAN feature. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 66: Me Firmware Force Recovery Setting \(3-Pin Me\\_Rcvr1\)](#)

ME firmware force recovery setting (3-pin ME\_RCVR1) This jumper allows you to force Intel Management Engine (ME) boot from recovery<sup>®</sup> mode when ME becomes corrupted. DDR4 thermal event setting (3-pin DIMMTRIP1) This jumper allows you to enable or disable DDR4 DIMM thermal sensing event pin. Chapter 4: Motherboard Information...

[Page 67](#) RAID configuration utility selection (3-pin RAID\_SEL1) This jumper allows you to select the RAID configuration utility to use when you create disk arrays. Place the jumper caps over pins 1-2 to use the third party software LSI MegaRAID software RAID Configuration Utility; otherwise, place the jumper caps to pins 2-3 to use the Intel<sup>®</sup> Rapid Storage Technology enterprise SATA Option ROM Utility. BMC Setting (3-pin BMC\_EN1) This jumper allows you to enable or disable the Baseboard Management Controller (ASMB8). ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 68: Internal Connectors](#)

610 series Chipset, this connector is for the Serial ATA signal cables for Serial ATA hard disk drives that allows up to 6 Gbps of data transfer rate. The actual data transfer rate depends on the speed of Serial ATA hard disks installed. Power Supply SMBus connector (5-pin PSUSMB1) This connector allows you to connect SMBus (System Management Bus) to the PSU (power supply unit) to read PSU information. Devices communicate with an SMBus host and/or other SMBus devices using the SMBus interface. This connector functions only when you install the ASUS ASMB8. Chapter 4: Motherboard Information...

## [Page 69: Usb 2.0 Connector \(10-1 Pin Usb56; Usb7\)](#)

USB 2.0 connector (10-1 pin USB56; USB7) These connectors are for USB 2.0 ports. Connect the USB module cables to connectors USB56. These USB connectors comply with USB 2.0 specification that supports up to 480 Mb/s connection speed. USB 3.0 connector (20-1 pin USB3\_34) This connector allows you to connect a USB 3.0 module for additional USB 3.0 front or rear panel ports. With an installed USB 3.0 module, you can enjoy all the benefits of USB 3.0

including faster data transfer speeds of up to 5Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 70: Cpu, Front, And Rear Fan Connectors](#)

The fan connectors support cooling fans. Connect the fan cables to the fan connectors on the motherboard, ensuring 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! • All fans feature the ASUS Smart Fan technology. LAN Activity LED connector (5-1 pin LAN34\_LED1) These leads are for 10G LAN activity LEDs on the front panel. Connect the LAN LED cable to the backplane for LAN activity indication. 4-10 Chapter 4: Motherboard Information...

### [Page 71: Serial Port Connector \(10-1 Pin Com1\)](#)

This connector is for the serial COM port. Connect the serial port module cable to one of these connectors, then install the module to a slot opening at the back of the system chassis. Trusted Platform Module connector (20-1 pin TPM1) This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 4-11...

### [Page 72: Atx Power Connectors \(24-Pin Eatxpwr1, 8-Pin Eatx12V1, 8-Pin Eatx12V2\)](#)

ATX power connectors (24-pin EATXPWR1, 8-pin EATX12V1, 8-pin EATX12V2) These connectors are for the 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. • DO NOT forget to connect the 24-pin and the 8-pin power plugs; otherwise, the system will not boot up. • Use of a power supply unit (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. • This motherboard supports ATX2.0 PSU or later version. • Ensure that your PSU can provide at least the minimum power required by your system. 4-12 Chapter 4: Motherboard Information...

### [Page 73: System Panel Connector \(20-1 Pin Panel1\)](#)

Hard disk drive activity LED (2-pin +HDLED) This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The HD LED lights up or flashes when data is read from or written to the HDD. Power button/soft-off button (2-pin PWRSW) This connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF. Reset button (2-pin RESET) This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 4-13...

### [Page 74: Auxiliary Panel Connector \(20-2 Pin Aux\\_Panel1\)](#)

Auxiliary panel connector (20-2 pin AUX\_PANEL1) This connector is for additional front panel features including front panel SMB, locator LED and switch, chassis intrusion, and LAN LEDs. Front panel SMB (10-2 pin FPSMB) These connectors are for the front panel SMBus cable. LAN activity LED (2-pin LAN1\_LINKACTLED, LAN2\_LINKACTLED) These connectors are for Gigabit LAN activity LEDs on the front panel.

### [Page 75: Vga Connector \(10-1 Pin Vga\\_Hdr1\)](#)

This connector supports the VGA High Dynamic-Range interface. Hard disk activity LED connector (4-pin HDLED1) This LED connector is for the storage add-on card cable connected to the SATA or SAS add-on card. The read or write activities of any device connected to the SATA or SAS add-on card causes the front panel LED to light up. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 4-15...

### [Page 76: Chassis Intrusion \(2-Pin Intrusion1\)](#)

Chassis Intrusion (2-pin INTRUSION1) These leads are for the intrusion detection feature for chassis with intrusion sensor or microswitch. When you remove any chassis component, the sensor triggers and sends a high level signal to these leads to record a chassis intrusion event. The default setting is short CASEOPEN and GND pin by jumper cap to disable the function. ISATA

& ISSATA connectors (ISATA; ISSATA) The ISATA connector (AHCI) supports 4 SATA 6Gb/s ports and Intel RAID/LSI MegaRAID. The ISSATA connector (AHCI) supports 4 SATA 6Gb/s ports and Intel RAID. 4-16 Chapter 4: Motherboard Information...

### [Page 77: Ngff\) Connector \(Ngff1\)](#)

M.2 (NGFF) connector (NGFF1) This connector allows you to install an M.2 device. This connector supports type 2242 devices on both PCI-E and SATA interface. The M.2 (NGFF) device is purchased separately Mezzanine PCI card connector (MEZZ1) The MEZZ1 connector supports Open Compute Project (OCP) cards. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 4-17...

### [Page 78: Onboard Leds](#)

Onboard LEDs Standby Power LED (SBPWR1) The motherboard comes with a standby power LED. The green LED lights up to indicate that the standby mode of the system is ON, the system is in sleep mode, or the system is 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. Baseboard Management Controller LED (BMCLED1) The green heartbeat LED blinks per second to indicate that the ASMB8 is working normally. The heartbeat LED functions only when you install the ASUS ASMB8. 4-18 Chapter 4: Motherboard Information...

### [Page 79: Cpu Warning Led \(Errcpu1, Errcpu2\)](#)

CPU Warning LED (ERRCPU1, ERRCPU2) The CPU warning LEDs light up to indicate failure on either CPU1, CPU2, or both. Location LED (LOCLED1) This onboard LED lights up when the Location button on the server is pressed or when triggered by a system management software. The Location LED helps visually locate and quickly identify the server in error on a server rack. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 4-19...

### [Page 80: Memory Error Led](#)

Memory error LED (MEMERRA1, MEMERRA2, MEMERRB1, MEMERRB2, MEMERRC1, MEMERRC2, MEMERRD1, MEMERRD2, MEMERRE1, MEMERRE2, EMERRF1, MEMERRF2, MEMERRG1, MEMERRG2, MEMERRH1, MEMERRH2) The DIMM warning LEDs light up to indicate failure on the corresponding DIMMs. The warning LEDs only functions when you enable the ASUS ASMB8. CATT LED (CATTERR\_LED1) CATT LED (CATTERR\_LED1) The CATT LED indicates that the system has experienced a fatal or catastrophic error The CATT LED indicates that the system has experienced a fatal or catastrophic error and cannot continue to operate.

### [Page 81: Message Led \(Mesled1\)](#)

Message LED (MESLED1) This onboard LED lights up to red when there is temperature warning or a BMC event log is generated. OCP Activity LED connector (4-pin OCP\_LED1) OCP Activity LED connector supports ASUS MCB-10G-2S OCP card Active LED. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 4-21...

### [Page 82](#) 4-22 Chapter 4: Motherboard Information...

### [Page 83: Chapter 5: Bios Setup](#)

Chapter 5: BIOS Setup BIOS Setup This chapter tells how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

### [Page 84: Managing And Updating Your Bios](#)

BIOS in the future. Copy the original motherboard BIOS using the BUPDATER utility. 5.1.1 ASUS CrashFree BIOS 3 utility The ASUS CrashFree BIOS 3 is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can update a corrupted BIOS file using a USB flash drive that contains the updated BIOS file.

### [Page 85: Asus Ez Flash 2 Utility](#)

5.1.2 ASUS EZ Flash 2 Utility The ASUS EZ Flash 2 Utility feature allows you to update the BIOS without having to use a DOS-based utility. Before you start using this utility, download the latest BIOS from the ASUS website at [www.asus.com](http://www.asus.com). To update the BIOS using EZ Flash 2 Utility Insert the USB flash disk that contains the latest BIOS file into the USB port. Enter the BIOS setup program. Go to the Tool menu then select ASUS EZ Flash 2 Utility.

## [Page 86: Bupdater Utility](#)

The BUPDATER utility allows you to update the BIOS file in the DOS environment using a bootable USB flash disk drive with the updated BIOS file. Updating the BIOS file To update the BIOS file using the BUPDATER utility: Visit the ASUS website at [www.asus.com](http://www.asus.com) and download the latest BIOS file for the motherboard. Save the BIOS file to a bootable USB flash disk drive. Copy the BUPDATER utility (BUPDATER.exe) from the ASUS support website at [support.asus.com](http://support.asus.com) to the bootable USB flash disk drive you created earlier. Boot the system in DOS mode, then at the prompt, type: BUPDATER /i[filename].CAP where [filename] is the latest or the original BIOS file on the bootable USB flash disk drive, then press <Enter>. A:\>BUPDATER /i[file name].CAP  
Chapter 5: BIOS Setup...

[Page 87](#) DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure! The utility returns to the DOS prompt after the BIOS update process is completed. Reboot the system from the hard disk drive. The BIOS update is finished! Please restart your system. C:\> ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 88: Bios Setup Program](#)

If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Press <F5> and select Yes to load the BIOS default settings. • 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](http://www.asus.com)) to download the latest BIOS file for this motherboard. Chapter 5: BIOS Setup...

## [Page 89: Bios Menu Screen](#)

For changing the Server Mgmt settings For changing the event log settings Event Logs Monitor For displaying the system temperature, power status, and changing the fan settings Security For changing the security settings Boot For changing the system boot configuration Tool For configuring options for special functions Exit For selecting the exit options To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 90: Menu Items](#)

5.2.3 Menu items 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 (Event Logs, Advanced, Monitor, Boot, Tool, and Exit) on the menu bar have their respective menu items. 5.2.4 Submenu items A solid triangle before each item on any menu screen means that the item has a submenu. To display the submenu, select the item then press <Enter>. 5.2.5 Navigation keys At the bottom right corner of a menu screen are the navigation keys for the BIOS setup program. Use the navigation keys to select items in the menu and change the settings.

## [Page 91: Main Menu](#)

Main menu When you enter the BIOS Setup program, the Main menu screen appears. The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings. 5.3.1 System Date [Day xx/xx/xxxx] Allows you to set the system date. 5.3.2 System Time [xx:xx:xx] Allows you to set the system time. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 92: 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. 5-10 Chapter 5: BIOS Setup...

## [Page 93: Acpi Settings](#)

Allows you to enable or disable the ability of the system to hibernate (OS/Sleep State). Configuration options: [Disabled] [Enabled] This option may be not effective with some OS. 5.4.2 Smart Settings SMART Self Test [Disabled] Allows you to run SMART Self Test on all HDDs during POST. Configuration options: [Disabled] [Enabled] 5-11 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 94: Nct6779D Super Io Configuration](#)

5.4.3 NCT6779D Super IO Configuration Serial Port 1 / Serial Port 2 Configuration Allows you to set the parameters of Serial Port 1/ Serial Port 2. Serial Port [Enabled] Allows you to enable or disable Serial Port. Configuration options: [Disabled] [Enabled] Change Settings [Auto] Allows

you to choose the setting for Super IO device.

### [Page 95: Intel Lan I210 Configuration](#)

Intel LAN I210 Configuration Intel I210 Lan1 Enable/ Intel I210 Lan2 Enable [Enabled] Allows you to enable or disable the Intel LAN. Configuration options: [Disabled] [Enabled] Intel LAN ROM Type [PXE] Allows you to select the Intel LAN ROM type. Configuration options: [Disabled] [PXE] [iSCSI] 5-13 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 96: Serial Port Console Redirection](#)

5.4.5 Serial Port Console Redirection COM1/COM2 Console Redirection [Disabled] Allows you to enable or disable the console redirection feature. Configuration options: [Disabled] [Enabled] The following item appears only when you set Console Redirection to [Enabled]. Console Redirection Settings This item becomes configurable only when you enable the Console Redirection item. The settings specify how the host computer and the remote computer (which the user is using) will exchange data.

[Page 97](#) Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS) Console Redirection [Disabled] Allows you to enable or disable the console redirection feature. Configuration options: [Disabled] [Enabled] The following item appears only when you set Console Redirection to [Enabled]. 5-15 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 98](#) Console Redirection Settings Out-of-Band Mgmt Port [COM1] Microsoft Windows Emergency Management Services (EMS) allow for remote management of a Windows Server OS through a serial port. Configuration options: [COM1] [COM2] Terminal Type [VT-UTF8] Microsoft Windows Emergency Management Services (EMS) allow for remote management of a Windows Server OS through a serial port. Configuration options: [VT100] [VT100+] [VT-UTF8] [ANSI] Bits per second [115200] Microsoft Windows Emergency Management Services (EMS) allow for remote management of a Windows Server OS through a serial port. Configuration options: [9600] [19200] [57600] [115200] Flow Control [None] Microsoft Windows Emergency Management Services (EMS) allow for remote management of a Windows Server OS through a serial port. Configuration options: [None] [Hardware RTS/CTS] [Software Xon/Xoff] 5-16 Chapter 5: BIOS Setup...

### [Page 99: Apm](#)

Configuration options: [Power Off] [Power On] [Last State] Power On By PCIE [Disabled] [Disabled] Disables the PCIE devices to generate a wake event. [Enabled] Enables the PCIE devices to generate a wake event. Power On By Ring [Disabled] [Disabled] Disables the PCIE devices to generate a wake event. [Enabled] Enables the PCIE devices to generate a wake event. Power On By RTC [Disabled] [Disabled] Disables RTC to generate a wake event. [Enabled] When set to [Enabled], the items RTC Alarm Date (Days) and Hour/ Minute/Second will become user-configurable with set values. 5-17 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 100: Pci Subsystem Settings](#)

5.4.7 PCI Subsystem Settings Load RT32 Image [Enabled] Allows you to enable or disable RT32 Image Loading. Configuration options: [Disabled] [Enabled] Above 4G Decoding [Disabled] Allows you to enable or disable 64-bit capable devices to be decoded in above 4G address space. It only works if the system supports 64-bit PCI decoding. Configuration options: [Disabled] [Enabled] SR-IOV Support [Disabled] This option enables or disables Single Root IO Virtualization Support if the system has SR-...

### [Page 101: Network Stack Configuration](#)

Enables or disables the network stack feature. Configuration options: [Disable] [Enable] The following item appears only when Network stack is set to [Enabled]. Ipv4 PXE Support [Enabled] Enables or disables the Ipv4 PXE Boot Support. If disabled, Ipv4 PXE boot option will not be created. Configuration options: [Disabled] [Enabled]. Ipv6 PXE Support [Enabled] Enables or disables the Ipv6 PXE Boot Support. If disabled, Ipv6 PXE boot option will not be created. Configuration options: [Disabled] [Enabled]. PXE boot wait time [0] Wait time to press ESC key to abort the PXE boot. Media detect time [0] Wait time (in seconds) to detect media. 5-19 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 102: Csm Configuration](#)

5.4.9 CSM Configuration CSM Support [Enabled] This option allows you to enable or disable CSM Support. Configuration options: [Disabled] [Enabled] GateA20 Active [Upon Request] This allows

you to set the GA20 option. Configuration options: [Upon Request] [Always] Option ROM Messages [Force BIOS] This allows you to set the display mode for option ROM. Configuration options: [Force BIOS] [Keep Current] Boot Option filter [Legacy only] This option allows you to control the Legacy/UEFI ROMs priority.

### [Page 103: Trusted Computing](#)

5.4.10 Trusted Computing Configuration Security Device Support [Disabled] Allows you to enable or disable the BIOS support for security device. Configuration options: [Disabled] [Enabled] 5-21 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 104: Usb Configuration](#)

5.4.11 USB Configuration Legacy USB Support [Enabled] Allows you to enable or disable Legacy USB device support. Configuration options: [Enabled] [Disabled] [Auto] XHCI Hand-off [Enabled] This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver. Configuration options: [Disabled] [Enabled] EHCI Hand-off [Disabled] This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver. Configuration options: [Disabled] [Enabled] USB Mass Storage Driver Support [Enabled] Allows you to enable or disable the USB Mass Storage driver support.

### [Page 105: Iscsi Configuration](#)

USB mass storage device start unit command time-out. Configuration options: [10 sec] [20 sec] [30 sec] [40 sec] Device power-up delay [Auto] This is the maximum time the device will take before it properly reports itself to the host controller. Configuration options: [Auto] [Manual] 5.4.12 iSCSI Configuration Allows you to configure the iSCSI parameters. 5-23 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 106: Intelrcsetup Menu](#)

IntelRCSetup menu 5-24 Chapter 5: BIOS Setup...

### [Page 107: Processor Configuration](#)

Hyper Threading [Enabled] Allows you to enable or disable the Intel Hyper-Threading Technology function. When ® disabled, only one thread per activated core is enabled. Configuration options: [Disabled] [Enabled] Execute Disable Bit [Enabled] XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, Redhat Enterprise 3 Update 3). Configuration options: [Disabled] [Enabled] Enable Intel TXT Support [Disabled] Forces the XD feature log to always return 0 when disabled. Configuration options: [Disabled] [Enabled] VMX [Enabled] Enables the Vanderpool Technology. Takes effect after reboot. Configuration options: [Disabled] [Enabled] 5-25 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 108](#) Enable SMX [Disabled] Enables the Safer Mode Extensions Configuration options: [Disabled] [Enabled] Hardware Prefetcher [Enabled] This Item allows you to turn on/off the mid level cache(L2) streamer prefetcher. Configuration options: [Disabled] [Enabled] Adjacent Cache Prefetch [Enabled] This Item allows you to turn on/off prefetching of adjacent cache lines. Configuration options: [Disabled] [Enabled] DCU Streamer Prefetcher [Enabled] This Item allows you to enable or disable prefetcher of next L1 data line.

### [Page 109: Advanced Power Management Configuration](#)

Allows your system to select from BIOS or operating system to choose enable energy performance bias tuning. Configuration options: [Disabled] [Enabled] Energy Performance Bias setting [Balanced Performance] Allows you to set the Energy Performance Bias which overrides the OS setting. Configuration options: [Performance] [Balanced Performance] [Balanced Power] [Power] 5-27 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 110: Common Refcode Configuration](#)

Power/Performance Switch [Enabled] Allows you to switch between Power or performance. Configuration options: [Disabled] [Enabled] Workload Configuration [Balanced] Optimization for the workload characterization. Configuration options: [Balanced] [I/O sensitive] Averaging Time Window [23] This is used to control the effective window of the average for CO and PO time. PO TotalTimeThreshold Low [35] The HW switching mechanism disables the performance setting (0) when the total PO time is less than this threshold.

## [Page 111: Qpi Configuration](#)

5.5.4 QPI Configuration QPI General Configuration QPI Status This item displays information about the QPI status. Link Speed Mode [Fast] This item allows you to select the QPI link speed as either the fast mode or slow mode. Configuration options: [Slow] [Fast] Link Frequency Select [Auto] This item allows you for selecting the QPI link frequency Configuration options: [Auto] [6.4 GT/s] [8.0 GT/s] [9.6 GT/s] QPI Link0p Enable [Enable] Configuration options: [Disable] [Enable] QPI Link1 Enable [Enable] Configuration options: [Disable] [Enable] QPI Status 5-29 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 112: Memory Configuration](#)

5.5.5 Memory Configuration Enforce POR [Auto] Allows you to enforce POR restrictions for DDR4 frequency and voltage programming. Configuration options: [Auto] [Enforce POR] [Disabled] [Enforce Stretch Goals] Memory Frequency [Auto] Allows you to select the memory frequency setting. Configuration options: [Auto] [1333] [1600] [1866] [2133] Halt on mem Training Error [Enabled] Allows you to enable or disable halt on mem Training Error. Configuration options: [Disabled] [Enabled] ECC Support [Auto] Allows you to enable or disable the ECC support.

[Page 113](#) Memory Power Savings Advanced Options CK in SR [Auto] Configuration options: [Auto] [Driven] [Tri-State] [Pulled Low] [Pulled High] MDLL Off [Auto] Allows you to shutdown MDLL during SR when enabled. Configuration options: [Auto] [Disabled] [Enabled] MEMHOT Throttling Mode [Input-only] Allows you to shutdown MDLL during SR when enabled. Configuration options: [Disabled] [Input-only] [Output-only] 5-31 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 114](#) Mem Electrical Throttling [Disabled] Allows you to configure Memory Electrical throttling. Configuration options: [Disabled] [Enabled] [Auto] Memory Map Channel Interleaving [Auto] Select different channel interleaving setting. Configuration options: [Auto] [1-way Interleave] [2-way Interleave] [3-way Interleave] [4-way Interleave] Rank Interleaving [Auto] Select different rank interleaving setting. Configuration options: [Auto] [1-way Interleave] [2-way Interleave] [4-way Interleave] [8-way Interleave] Memory RAS Configuration RAS Mode [Disabled] Allows you to enable or disable RAS Modes. Enabling Sparing and Mirroring is not supported. In case enabled, Sparing will be selected.

## [Page 115: Iio Configuration](#)

Intel VT for Directed I/O (VT-d) Intel VT for Directed I/O (VT-d) [Enabled] Allows you to enable or disable the Intel Virtualization Technology for Directed I/O. Configuration options: [Disabled] [Enabled] PCI Express Global Options TX EQ WA [Enabled] Use special table for TX\_EQ and vendor specific cards. Configuration options: [Disabled] [Enabled] 5-33 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 116: Pch Configuration](#)

PCI-E ASPM Support (Global) [L1 Only] This option enables or disables the ASPM support for all downstream devices. Configuration options: [Disabled] [L1 Only] 5.5.7 PCH Configuration PCH Devices DeepSx Power Policies [Disabled] Allows you to configure the DeepSx Mode configuration. Configuration options: [Disabled] [Enabled in S5] [Enabled in S4 and S5] PCI Express Configuration 5-34 Chapter 5: BIOS Setup...

[Page 117](#) Controller [Enabled] Allows you to enable or disable the sSATA Controller. Configuration options: [Disabled] [Enabled] Configure sSATA as [AHCI] Allows you to identify the SATA port is connected to Solid State Drive or Hard Disk Drive. Configuration options: [IDE] [AHCI] [RAID] SATA Mode options SATA LED locate [Enabled] If enabled, LED/SGPIO hardware is attached. Configuration options: [Disabled] [Enabled] Support Aggressive Link Power Management [Enabled] Allows you to enable or disable the Support Aggressive Link Power (SALP) Management. Configuration options: [Disabled] [Enabled] 5-35 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 118](#) SATA Port 1/ SATA Port 2/ SATA Port 3/ SATA Port 4 Port 1/ Port 2/ Port 3/ Port 4 Allows you to enable or disable the SATA port Configuration options: [Disabled] [Enabled] PCH SATA Configuration SATA Controller [Enabled] Allows you to enable or disable the SATA Controller. Configuration options: [Disabled] [Enabled] Configure SATA as [AHCI] Allows you to identify the SATA port is connected to Solid State Drive or Hard Disk Drive.

[Page 119](#) [Enabled]. USB Port #1/ #2/ #3/ #4 [Enabled] Configuration options: [Disabled] [Enabled] USB 3.0 Port #1/ #2 [Enabled] Configuration options: [Disabled] [Enabled] Platform

Thermal Configuration PCH Thermal Device [Auto] Allows you to enable or disable the PCH Thermal Device (D31:F6). Configuration options: [Auto] [Disabled] [Enabled] 5-37 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 120: Miscellaneous Configuration](#)

Alert Enable Lock [Disabled] Allows you to lock all Alert Enable settings. Configuration options: [Disabled] [Enabled] 5.5.8 Miscellaneous Configuration Active Video [Offboard Device] Allows you to select the video type. Configuration options: [Onboard Device] [Offboard Device] 5.5.9 Server ME Configuration Displays the Server ME Technology parameters on your system. 5-38 Chapter 5: BIOS Setup...

### [Page 121: Runtime Error Logging Support](#)

The Server Management menu displays the server management status and allows you to change the settings. OS Watchdog Timer [Disabled] This item allows you to start a BIOS timer which can only be shut off by Intel Management Software after the OS loads. Configuration options: [Disabled] [Enabled] The following items is configurable only when the OS Watchdog Timer is set to [Enabled]. 5-39 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 122](#) OS Wtd Timer Timeout [10 minutes] Allows you to configure the length for the OS Boot Watchdog Timer. Configuration options: [5 minutes] [10 minutes] [15 minutes] [20 minutes] OS Wtd Timer Policy [Reset] This item allows you to configure the how the system should respond if the OS Boot Watch Timer expires. Configuration options: [Do Nothing] [Reset] [Power Down] Serial Mux [Disabled] This item allows you to enable or disable Serial Mux configuration. Configuration options: [Disabled] [Enabled] System Event Log Allows you to change the SEL event log configuration. SEL Components [Enabled] Allows you to enable or disable all features of system Event Logging during boot. Configuration options: [Disabled] [Enabled] •...

[Page 123](#) IPv6 Display Letter Case [Upper Case] Displays the uppercase or lowercase letters of the alphabet. Configuration options: [Lower Case] [Upper Case] IPv6 BMC Lan Option [Enable] This item allows you to enable or disable the IPv6 BMC LAN channel function. Disabling this item will not modify any BMC network during BIOS phase. Configuration options: [Disable] [Enable] 5-41 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 124](#) IPv6 BMC LAN IP Address source [Previous State] Select to configure LAN channel parameters statically or dynamically (by BIOS or BMC). Configuration options: [Previous State] [Static] [Dynamic-Obtained by BMC running DHCP] The following items appear only when you set IP BMC Lan IP Address Source to [Static]. IPv6 BMC LAN IP Address Allows you to input IPv6 BMC Lan IP address. IPv6 BMC LAN IP Prefix Length Allows you to input IPv6 BMC Lan IP Prefix Length.

[Page 125](#) Allows you to input IPv6 BMC Lan Default Gateway. IPv6 BMC LAN DNS Settings Allows you to enter IPv6 BMC LAN DNS Settings. IPv6 BMC LAN Link IP Address Allows you to enter IPv6 BMC LAN Link IP address. IPv6 BMC LAN Link IP Prefix Length Allows you to input IPv6 BMC Lan Link IP Prefix Length. 5-43 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 126: Event Logs Menu](#)

Event Logs menu The Event Logs menu items allow you to change the event log settings and view the system event logs. 5.7.1 Change Smbios Event Log Settings Press <Enter> to change the Smbios Event Log configuration. All values changed here do not take effect until computer is restarted. Enabling/Disabling Options Smbios Event Log [Enabled] Change this to enable or disable all features of Smbios Event Logging during boot. Configuration options: [Disabled] [Enabled] Erasing Settings Erase Event Log [No]...

### [Page 127: View Smbios Event Log](#)

Convert OEM Codes [Disabled] Enable or disable the converting of EFI Status Codes to Standard Smbios Types (Not all may be translated). Configuration options: [Disabled] [Enabled] 5.7.2 View Smbios Event Log Press <Enter> to view all smbios event logs. 5-45 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 128: Monitor Menu](#)

+5VSB Voltage, +5V Voltage, +12V Voltage, +3.3V Voltage, VBAT Voltage, +3.3VSB Voltage The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators. CPU FAN1&2 FRNT FAN1 mode [Generic Mode] Allows you to configure the

ASUS Smart Fan feature that smartly adjusts the fan speeds for more efficient system operation. Configuration options: [Generic Mode] [High Speed Mode] [Full Speed Mode] [Manual Mode] Duty % [50] This item appears only when CPU FAN1&2 FRNT FAN1 mode is set to [Manual Mode].

### [Page 129: Security Menu](#)

**Administrator Password** To set an administrator password: Select the Administrator Password item and press <Enter>. From the Create New Password box, key in a password, then press <Enter>. Confirm the password when prompted. To change an administrator password: Select the Administrator Password item and press <Enter>. From the Enter Current Password box, key in the current password, then press <Enter>. From the Create New Password box, key in a new password, then press <Enter>. Confirm the password when prompted. To clear the administrator password, follow the same steps as in changing an administrator password, but press <Enter> when prompted to create/confirm the password. 5-47 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

**Page 130** **User Password** To set a user password: Select the User Password item and press <Enter>. From the Create New Password box, key in a password, then press <Enter>. Confirm the password when prompted. To change a user password: Select the User Password item and press <Enter>. From the Enter Current Password box, key in the current password, then press <Enter>. From the Create New Password box, key in a new password, then press <Enter>. Confirm the password when prompted. To clear a user password: Select the Clear User Password item and press <Enter>. Select Yes from the Warning message window then press <Enter>.

**Page 131** **Enroll All Factory Default Keys** This item will ask you if you want to Install Factory Default secure keys. Select Yes if you want to load the default secure keys, otherwise select No. **Save All Secure Boot Variables** This item will ask you if you want to save all secure boot variables. Select Yes if you want to save all secure boot variables, otherwise select No. **Platform Key (PK)/ Key Exchange Key (KEK)/ Authorized Signatures (DB)/Authorized TimeStamps (DBT)/ Forbidden Signatures (DBX)** Configuration options: [Delete] [Set New] [Append] Configuration options: [Set New] [Delete] [Append] 5-49 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 132: Boot Menu](#)

**5.10 Boot menu** The Boot menu items allow you to change the system boot options. **Setup Prompt Timeout [xx]** Use the <+> and <-> keys to adjust the number of seconds to wait for setup activation key. **Bootup NumLock State [On]** Allows you to select the power-on state for the NumLock. Configuration options: [Off] [On] **Boot Logo Display [Auto]** Allows you to enable or disable the full screen logo display feature. Configuration options: [Auto] [Full Screen] [Disabled] **POST Report [5 sec]** Allows you to set the desired POST Report waiting time from 1 to 10 seconds.

### [Page 133: Tool Menu](#)

**Tool menu** The Tool menu items allow you to configure options for special functions. Select an item then press <Enter> to display the submenu. **ASUS EZ Flash** Allows you to run ASUS EZ Flash BIOS ROM Utility when you press <Enter>. Refer to the ASUS EZ Flash Utility section for details. 5-51 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 134: Exit Menu](#)

**5.12 Exit menu** The Exit menu items allow you to save or discard your changes to the BIOS items. Pressing <Esc> does not immediately exit this menu. Select one of the options from this menu or <F10> from the legend bar to exit. **Save Changes & Reset Exit System setup** after saving the changes. **Discard Changes &...**

**Page 135** **Restore the User Defaults** to all the setup options. **Boot Override** These items displays the available devices. The device items that appears on the screen depends on the number of devices installed in the system. Click an item to start booting from the selected device. **Launch EFI Shell from filesystem device** Attempts to launch EFI Shell application (shellx64.efi) from one of the available filesystem devices. 5-53 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

**Page 136** 5-54 Chapter 5: BIOS Setup...

## [Page 137: Chapter 6: Raid Configuration](#)

Chapter 6: RAID Configuration RAID Configuration This chapter provides instructions for setting up, creating, and configuring RAID sets using the available utilities.

## [Page 138: Setting Up Raid](#)

Setting up RAID The motherboard supports the following SATA RAID solutions: ® • Rapid Storage Technology enterprise Option ROM Utility with RAID 0, RAID 1, Intel RAID 10, and RAID 5 support (for Windows OS only). 6.1.1 RAID definitions RAID 0 (Data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks.

## [Page 139: Installing Hard Disk Drives](#)

® if you installed Serial ATA hard disk drives on the Serial ATA connectors supported by the Intel C602 chipset. ® Refer to the succeeding section for details on how to use the RAID configuration utility. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 140: Lsi Software Raid Configuration Utility](#)

LSI Software RAID Configuration Utility The LSI MegaRAID software RAID configuration utility allows you to create RAID 0, RAID 1, or RAID 10 set(s) from SATA hard disk drives connected to the SATA connectors supported by the motherboard southbridge chip. To enter the LSI MegaRAID software RAID configuration utility: Turn on the system after installing all the SATA hard disk drives.

## [Page 141: Creating A Raid Set](#)

View/Add Configuration Initialize Clear Configuration Objects Select Boot Drive Rebuild Check Consistency Defines Physical Arrays. An Array Will Automatically Become A VD Use Cursor Keys to Navigate Between Items And Press Enter To Select An Option ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 142](#) The ARRAY SELECTION MENU displays the available drives connected to the SATA ports. Use the up/down arrow keys to select the drives you want to include in the RAID set, and then press <Space>. When selected, the drive indicator changes from READY to ONLIN A[X]-[Y], where X is the array number, and Y is the drive number.

[Page 143](#) READY Units= MB RAID 1 Size = 152146MB = OFF = On Accept SPAN = NO Choose RAID Level For This VD Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 144](#) Select Units from the Virtual Drive sub-menu, and then press <Enter>. Select the units for virtual drive size from the menu, and then press <Enter>. LSI Software RAID Configuration Utility Ver C.05 Sep 17,2010 BIOS Version A.10.09231523R Virtual Drive(s) Configured Easy Configuration - ARRAY SELECTION MENU RAID Size...

[Page 145](#) Select Boot Drive Objects Virtual Drive(s) Configured Rebuild Check Consistency RAID Size #Stripes StripSz Status 148.580GB 64KB ONLINE Select Yes Or No Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 146](#) Using New Configuration When a RAID set already exists, using the New Configuration command erases the existing RAID configuration data. If you do not want to delete the existing RAID set, use the View/Add Configuration command to view or create another RAID configuration. To create a RAID set using the New Configuration option From the Management Menu, select Configure >...

## [Page 147: Adding Or Viewing A Raid Configuration](#)

The information of the selected hard disk drive displays at the bottom of the screen. Follow step 3 to 12 of section 6.2.1 Creating a RAID set: Using Easy Configuration to add a new RAID set. 6-11 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 148: Initializing The Virtual Drives](#)

6.2.3 Initializing the virtual drives After creating the RAID set(s), you must initialize the virtual drives. You may initialize the virtual drives of a RAID set(s) using the Initialize or Objects command on the Management Menu. Using the Initialize command To initialize the virtual drive

using the Initialize command From the Management Menu, select Initialize, and then press <Enter>.

[Page 149](#) #Stripes StripSz Status Management Menu Configure Init of VD Is In Process 148.580GB 64KB ONLINE Initialize VD 0 Initialization Complete. Press Esc.. Objects Rebuild Check Consistency 100% Completed Virtual Drives Virtual Drive 0 SPACE-(De)Select, F10-Initialize 6-13 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 150](#) Using the Objects command To initialize the virtual drives using the Objects command From the Management Menu, select Objects > Virtual Drive, and then press <Enter>. LSI Software RAID Configuration Utility Ver C.05 Sep 17,2010 BIOS Version A.10.09231523R Objects Management Menu Adapter Configure Virtual Drive...

[Page 151](#) Init Will Destroy Data On Selected VD(s) Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option A progress bar appears on screen. If desired, press <Esc> to abort initialization. When initialization is completed, press <Esc>. 6-15 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 152: Rebuilding Failed Drives](#)

6.2.4 Rebuilding failed drives You can manually rebuild failed hard disk drives using the Rebuild command in the Management Menu. To rebuild a failed hard disk drive From the Management Menu, select Rebuild, and then press <Enter>. LSI Software RAID Configuration Utility Ver C.05 Sep 17,2010 BIOS Version A.10.09231523R Management Menu...

[Page 153](#) Rebuilding of Drive Will Take A Few Minutes. Start Rebuilding Drive (Y/N)? Check Consistency Port # 1 DISK 77247MB HDS72808PLA380 PF20A60A SPACE-(De)Select,F10-Start Rebuild,F2-Drive Information,F3-View Virtual Drives When rebuild is complete, press any key to continue. 6-17 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 154: Checking The Drives For Data Consistency](#)

6.2.5 Checking the drives for data consistency You can check and verify the accuracy of data redundancy in the selected virtual drive. The utility can automatically detect and/or detect and correct any differences in data redundancy depending on the selected option in the Objects > Adapter menu. The Check Consistency command is available only for virtual drives included in a RAID 1 or RAID 10 set.

[Page 155](#) • Continue - Continues the consistency check. • Abort - Aborts the consistency check. When you restart checking, it continues from zero percent. When checking is complete, press any key to continue. 6-19 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 156](#) Using the Objects command To check data consistency using the Objects command From the Management Menu, select Objects, and then select Virtual Drive from the sub-menu. Use the arrow keys to select the virtual drive you want to check, and then press <Enter>.

### [Page 157: Deleting A Raid Configuration](#)

Select Boot Drive Rebuild Check Consistency Clear Existing Configuration Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option The utility clears all the current array(s). Press any key to continue. 6-21 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 158: Selecting The Boot Drive From A Raid Set](#)

6.2.7 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. See section 6.2.1 Creating a RAID set: Using New Configuration for details. To select the boot drive from a RAID set From the Management Menu, select Configure >...

### [Page 159: Enabling Writecache](#)

= On Check Consistency Read Ahead = On Disk Write Cache Setting of VD Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option When finished, press any key to continue. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 6-23...

## [Page 160: Intel](#)

® Intel Rapid Storage Technology enterprise SATA Option ROM Utility The Intel Rapid Storage Technology enterprise SATA Option ROM utility allows you to ® create RAID 0, RAID 1, RAID 10 (RAID 1+0), and RAID 5 set from Serial ATA hard disk drives that are connected to the Serial ATA connectors supported by the Southbridge.

## [Page 161: Creating A Raid Set](#)

]Prev/Next [TAB]-(M)aster [SPACE]-(R)ecovery [ENTER]-Done Use the up/down arrow keys to move the selection bar then press <Space> to select a disk. A small triangle before the Port number marks the selected drive. Press <Enter> when you are done. 6-25 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 162](#) Use the up/down arrow keys to select the stripe size for the RAID array (for RAID 0, 10 and 5 only) then press <Enter>. The available stripe size values range from 4 KB to 128 KB. The following are typical values: RAID 0: 128KB RAID 10: 64KB RAID 5: 64KB...

## [Page 163: Deleting A Raid Set](#)

<N> to return to the DELETE VOLUME menu. DELETE VOLUME VERIFICATION ALL DATA IN THE VOLUME WILL BE LOST! (This does not apply to Recovery volumes) Are you sure you want to delete volume "Volume0"? (Y/N): ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 6-27...

## [Page 164: Resetting Disks To Non-Raid](#)

6.3.3 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. To reset a RAID set: From the utility main menu, select 3. Reset Disks to Non-RAID and press <Enter>. Press the up/down arrow keys to select the drive(s) or disks of the RAID set you want to reset, then press <Space>.

## [Page 165: Exiting The Intel Rapid Storage Technology Enterprise Sata Option Rom Utility](#)

Select the port of destination disk for rebuilding (ESC to exit): Port Drive Model Serial # Size  
XXXXXXXXXX XXXXXXXX XXX.GB ]-Previous/Next [ENTER]-Select [ESC]-Exit Select a destination disk with the same size as the original hard disk. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 6-29...

[Page 166](#) The utility immediately starts rebuilding after the disk is selected. When done, the status of the degraded RAID volume is changed to "Rebuild". Intel(R) Rapid Storage Technology enterprise - SATA Option ROM - 3.6.0.1023 Copyright(C) 2003-12 Intel Corporation. All Rights Reserved. MAIN MENU 1.

## [Page 167: Setting The Boot Array In The Bios Setup Utility](#)

Use up/down arrow keys to select the boot priority and press <Enter>. See the Boot menu section of Chapter 4 for more details. From the Exit menu, select Save Changes & Exit, then press <Enter>. When the confirmation window appears, select Yes, then press <Enter>. 6-31 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

## [Page 168: Intel ® Rapid Storage Technology Enterprise \(Windows\)](#)

® Intel Rapid Storage Technology enterprise (Windows) The Intel Rapid Storage Technology enterprise allows you to create RAID 0, RAID 1, RAID ® 10 (RAID 1+0), and RAID 5 set(s) from Serial ATA hard disk drives that are connected to the Serial ATA connectors supported by the Southbridge.

## [Page 169: Creating A Raid Set](#)

Click Next. • If you do not want to keep the data on one of the selected disks, select NO when prompted. • If you want to Enable volume write-back cache or Initialize volume, click Advanced. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 6-33...

[Page 170](#) Confirm the volume creation, then click Create Volume to continue. This process could take a while depending on the number and size of the disks. You can continue using other applications during this time. Wait until the process is completed, then click OK when prompted. You still need to partition your new volume using Windows Disk Management before adding any

data.

### [Page 171: Changing A Volume Type](#)

RAID 0: 128KB RAID 10: 64KB RAID 5: 64KB We recommend a lower stripe size for server systems, and a higher stripe size for multimedia computer systems used mainly for audio and video editing. 6-35 ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 172: Deleting A Volume](#)

6.4.3 Deleting a volume Be cautious when deleting a volume. You will lose all data on the hard disk drives. Before you proceed, ensure that you back up all your important data from your hard drives. To delete a volume: From the utility main menu, select the volume (exp.

### [Page 173: Preferences](#)

Allow you to set to show the notification area icon and show system information, warning, or errors here. E-Mail Preferences Allow you to set to sent e-mail of the following events: • Storage system information • Storage system warnings • Storage system errors ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 6-37...

### [Page 174](#) Chapter 6: RAID Configuration 6-38...

### [Page 175: Chapter 7: Driver Installation](#)

Chapter 7: Driver Installation Driver Installation This chapter provides the instructions for installing the necessary drivers for different system components in both ® Linux and Windows Operating Systems.

### [Page 176: Raid 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 the instructions on how to install the RAID controller drivers during OS installation.

7.1.1 Creating a RAID driver disk The system does not include a floppy drive.

[Page 177](#) Insert a blank formatted high-density floppy disk to the USB floppy disk drive. Type `dd if=XXX.img of=/dev/fd0` to decompress the file into the floppy disk from the following path in the support DVD: For LSI MegaRAID Driver \Drivers\C60x LSI RAID\Driver\makedisk\Linux Eject the floppy disk. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

### [Page 178: Installing The Raid Controller Driver](#)

7.1.2 Installing the RAID controller driver During Windows Server 2008 OS installation ® To install the RAID controller driver when installing Windows ® Server 2008 OS Boot the computer using the Windows ® Server 2008 OS installation disc. Follow the screen instructions to start installing Windows Server 2008.

[Page 179](#) When the system finishes loading the RAID driver, replace the motherboard Support DVD with the Windows Server installation disc. Select the drive to install Windows and click Next. Setup then proceeds with the OS installation. Follow screen instructions to continue. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 180](#) Red Hat Enterprise Linux OS 5.6 ® To install the LSI MegaRAID controller driver when installing Red Hat ® Enterprise OS: Boot the system from the Red Hat ® OS installation CD. At the boot:, type `linux dd noprobe=ata1 noprobe=ata2...`, then press <Enter>.

[Page 181](#) When the installation is completed, DO NOT click Reboot. Press <Ctrl> + <Alt> + <F2> to switch to the command-line interface from graphic user interface. Type the following commands when using a Legacy floppy. `mkdir /mnt/driver mount /dev/fd0 /mnt/driver cd /mnt/driver sh replace_ahci.sh reboot` ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 182](#) Red Hat Enterprise Linux OS 6.1 ® To install the LSI MegaRAID controller driver when installing Red Hat ® Enterprise OS: Boot the system from the Red Hat ® OS installation CD. Press <Tab> to edit options. While booting from DVD, press <ESC> to give the third party driver. Enter the following command at the boot: `Linux dd blacklist=iscsi blacklist=ahci nodmraid`, then press <ENTER>.

[Page 183](#) You have multiple devices which could serve as source for a driver disk. Choose one you like to use and select OK, then press <Enter>. Driver Disk Source You have multiple devices which could serve as source for a driver disk. Which would you like to use? Cancel ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2...

[Page 184](#) Enterprise RAID driver disk to the USB floppy disk drive, select  Insert the Red Hat OK, then press <Enter>. Insert Driver Disk Insert your driver disk into /dev/sdb and press "OK" to continue. Back The drivers for the RAID card are installed to the system. When asked if you will load additional RAID controller drivers, select No, then press <Enter>.

[Page 185](#) Mount the image file into the image folder using this command format: mount -o loop [image file name] image Example: mount -o loop megasr-15-15.00.0120.2012-1-sles11-ga-x86\_64.img image Copy the contents of the image directory, labeled as 01, into a FAT32 USB drive. Rename the 01 folder to CD Image. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-11...

[Page 186](#) Installing SUSE 11 Linux OS To install the LSI MegaRAID controller driver when installing SUSE Linux Enterprise Server OS: Boot the system from the SUSE OS installation CD. Use the arrow keys to select Installation from the Boot Options menu. Press <F6>, then select Yes from the menu.

[Page 187](#) When below screen appears, select the USB floppy disk drive (sda) as the driver update medium. Select OK, then press <Enter>. Please choose the Driver Update medium. sda: USB Floppy other device Back Select Back and follow the onscreen instructions to finish the installation. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-13...

## [Page 188: Management Applications And Utilities Installation](#)

The contents of the support DVD are subject to change at any time without notice. Visit the ASUS website (www.asus.com) for the latest updates on software and utilities. ®...

[Page 189](#) The Drivers Menu shows the available device drivers if the system detects installed devices. Install the necessary drivers to activate the devices. 7.3.2 Utilities menu tab The Utilities menu displays the software applications and utilities that the motherboard supports. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-15...

[Page 190](#) 7.3.3 MakeDisk menu tab The MakeDisk menu contains items to create the Intel RAID driver disks. Press the arrow down button in the lower part of the menu to view more items. 7.3.4 Manual menu The Manual menu provides the link to the Broadcom NetXtreme II Network Adapter user guide.

[Page 191](#) 7.3.5 Contact information menu The Contact menu displays the ASUS contact information, e-mail addresses, and useful links if you need more information or technical support for your motherboard. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-17...

## [Page 192: Intel ® Chipset Device Software Installation](#)

Intel chipset device software installation ® ® This section provides the instructions on how to install the Intel chipset device software on the system. You need to manually install the Intel ® chipset device software on a Windows operating system. ®...

[Page 193](#) Select Yes to accept the terms of the License Agreement and continue the process. Read the Readme File Information and press Next to continue the installation. Toggle Yes, I want to restart the computer now and click Finish to complete the setup process. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-19...

## [Page 194: Adapters Driver](#)

® Installing the Intel I350-AM1/I350-AM2/I210 X540-BT2 Gigabit Adapters driver This section provides the instructions on how to install the Intel I350-AM1/I350-AM2/ ® I210/X540-BT2 Gigabits Adapter Driver on the system. To install the Intel I350-AM1/I350-AM2/I210/X540-BT2 Gigabit Adapters Driver on the ® ®...

[Page 195](#) Tick I accept the terms in the license agreement and click Next to continue. From the Setup Options window, click Next to start the installation. By default, Intel(R) PROSet for Windows Device Manager and Windows PowerShell Module are ticked. ASUS RS520-E8-RS8 V2,

RS520-E8-RS12-EV2 7-21...

[Page 196](#) Click Install to start the installation. When the installation is done, press Finish to complete the installation. 7-22 Chapter 7: Driver Installation...

### [Page 197: Vga Driver Installation](#)

ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the support DVD. Click the ASPEED AST2300 / AST2400 Display Driver to begin installation. From the installation window, click Next to start the installation. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-23...

[Page 198](#) Click Install to proceed with the installation. Click Finish to complete the installation. 7-24 Chapter 7: Driver Installation...

### [Page 199: Intel ® Rapid Storage Technology Enterprise 4.0 Installation](#)

Insert the motherboard/system support DVD to the optical drive, and find the utility menu. ® Click the Intel Rapid Storage Technology enterprise 4.0 to begin installation. When the Welcome to the Setup Program appears, click Next to start the installation. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-25...

[Page 200](#) Read the Warning message and click Next to continue. Read the License Agreement and click Yes to continue. Read the Readme File Information and click Next to continue. 7-26 Chapter 7: Driver Installation...

[Page 201](#) After completing the installation, click Next to complete the setup process. Select Yes, I want to restart my computer now and click Finish to restart your computer before using the program. ASUS RS520-E8-RS8 V2, RS520-E8-RS12-EV2 7-27...

[Page 202](#) 7-28 Chapter 7: Driver Installation...

### [Page 203: Appendices](#)

Appendices Contact Information...

### [Page 204: Asus Contact Information](#)

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This manual is also suitable for:

[Rs520-e8-rs12-ev2](#)