

Asus SABERTOOTH Z170 Manual

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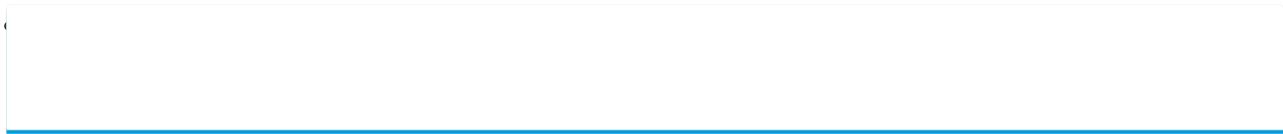
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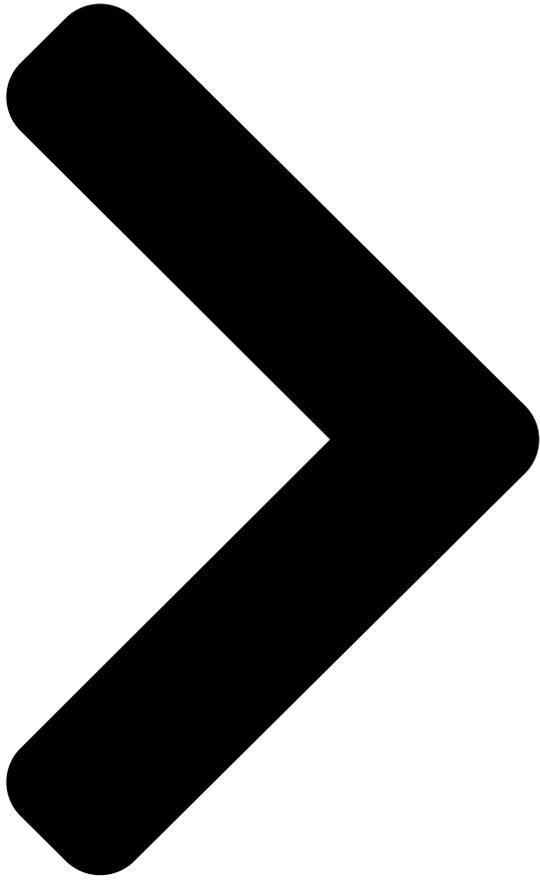
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SABERTOOTH Z170 S



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Related Manuals for Asus SABERTOOTH Z170

[Motherboard Asus Z170 PRO GAMING User Manual](#)

(100 pages)

[Motherboard Asus Z170 PRO GAMING Manual](#)

(96 pages)

[Motherboard Asus Z170-A User Manual](#)

(130 pages)

[Motherboard Asus Z170M-E D3 Manual](#)

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[Motherboard Asus Z170-P D3 User Manual](#)

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[Motherboard ASUS Z170-K User Manual](#)

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[Motherboard Asus Z170-K Quick Start Manual](#)

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[Motherboard Asus Z170-DELUXE Series User Manual](#)

(186 pages)

[Motherboard Asus Z170-PRO Manual](#)

(170 pages)

Summary of Contents for Asus SABERTOOTH Z170

[Page 1](#) SABERTOOTH Z170 S...

[Page 2](#) Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification or alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

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[Page 6: Safety Information](#)

Safety information Electrical safety • To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system. • When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

[Page 7: About This Guide](#)

Refer to the following sources for additional information and for product and software updates. ASUS websites The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information. Optional documentation Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer.

[Page 8: Conventions Used In This Guide](#)

Conventions used in this guide To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual. DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task. CAUTION: Information to prevent damage to the components when trying to complete a task.

[Page 9: Sabertooth Z170 S Specifications Summary](#)

CPUs. Please refer to Memory QVL (Qualified Vendors List) for details. ** Refer to www.asus.com or this user guide for the complete Memory QVL (Qualified Vendors List). 2 x PCI Express 3.0/2.0 x16 slots (single at x16 or dual at x8/x8 mode) 1 x PCI Express 3.0/2.0 x16 slot* (max).

[Page 10](#) - Supports Jack-Detection, Multi-streaming, and Front Panel Jack- Retasking - Optical S/PDIF out port at back I/O Intel Z170 Express Chipset supports ASUS USB 3.1 Boost ® - 6 x USB 3.0/2.0 ports (4 ports @mid-board, 2 port @back panel, blue) - 8 x USB 2.0/1.1 ports (4 ports @mid-board, 4 port @back panel,...

[Page 11](#) - USB 3.1 Boost featuring speedy USB 3.1 transmission - USB BIOS Flashback with USB BIOS Flashback Wizard for EZ BIOS download scheduling - ASUS UEFI BIOS EZ Mode featuring friendly graphics user interface - Turbo LAN to experience smooth online gaming with lower pings...

[Page 12](#) 2 x Assistant Fan connectors (1 x 3-pin, 1 x 4-pin) Internal I/O connectors 1 x Front panel audio connector (AAFP) 1 x S/PDIF out header 1 x Thunderbolt header (5-pin) for ASUS ThunderboltEX series support 1 x TPM connector 1 x 24-pin EATX Power connector...

[Page 13](#) SABERTOOTH Z170 S specifications summary 128 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI3.0, WfM2.0, SM BIOS 3.0, ACPI 5.0, Multi-language BIOS, ASUS EZ Flash 3, BIOS Features CrashFree BIOS 3, F11 EZ Tuning Wizard, F6 Qfan Control, F3 My Favorites, Quick Note, Last Modified log, F12 PrintScreen and ASUS DRAM SPD (Serial Presence Detect) memory information WfM 2.0, DMI 3.0, WOL by PME, PXE...

[Page 14: Package Contents](#)

ASUS SABERTOOTH Z170 S Technical documentations, Support DVD motherboard certification and warranty card 1 x ASUS SLI™ bridge connector 4 x Serial ATA 6.0 Gb/s cables 1 x ASUS Q-Shield (7 cm) 1 x ASUS Q-Connector kit 1 x CPU Installation Tool 1 x M.2 screws set...

[Page 15: Installation Tools And Components](#)

Installation tools and components Graphics card (optional) Phillips (cross) screwdriver PC chassis Power supply unit Intel LGA1151 CPU Intel LGA1151 compatible CPU Fan ® ® DIMM SATA hard disk drive SATA optical disc drive (optional) The tools and components in the table above are not included in the motherboard package.

[Page 17: Chapter 1: Product Introduction](#)

SATA Express provides faster data transfer speeds of up to 10Gb/s, allowing your system to catch up with the speed of the SSDs. It also features backward compatibility with up to two SATA drives of the same speed. SABERTOOTH Z170 S...

[Page 18: Ultimate Cool" Thermal Solutions](#)

PCIe 3.0 x4 M.2 Support With a 4x PCI Express 3.0/2.0 bandwidth, the M.2 can support up to 32 Gbit/s of data transfer speed. It is a perfect choice for the operating system or application drive, making your system and its installed apps work in a faster pace. Complete USB 3.1 integration This motherboard has the latest USB 3.1 connectivity built in with dual Type-A ports for the very fastest USB data transfers —...

[Page 19: Tuf Engine" Power Design](#)

1.1.3 "TUF Engine" Power Design Digital Power Control ASUS DIGI+ Power Control features the revolutionary and innovative digital VRM, DRAM, and CPU Voltage controllers. These controllers offers ultra-precise memory and voltage tuning for optimal system efficiency, stability and performance. TUF Components (Choke, 10K Ti-Cap. & MOSFET; certified by military- standard) The motherboard's TUF components features military-standard robust TUF new chokes,...

[Page 20: Asus Ez Diy](#)

EMI (Electronic Magnetic Interference). ASUS Q-connector ASUS Q-Connector is a unique adapter that allows you to easily connect or disconnect the chassis front panel cables to one module, eliminating the hassle of plugging one cable at a time and making the connection quick and accurate.

[Page 21: Asus Exclusive Features](#)

BIOS automatically. AI Suite 3 With its user-friendly interface, ASUS AI Suite 3 consolidates all the exclusive ASUS features into one simple-to-use software package. It allows you to supervise fan speed control, voltage and sensor readings. This all-in-one software offers diverse and easy to use functions, with no need to switch back and forth between different utilities.

[Page 22: Motherboard Overview](#)

Motherboard overview 1.2.1 Before you proceed Take note of the following precautions before you install motherboard components or change any motherboard settings. • Unplug the power cord from the wall socket before touching any component. • Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.

[Page 23: Motherboard Layout](#)

1.2.2 Motherboard layout Refer to 1.2.9 Internal connectors and 2.3.1 Rear I/O connection for more information about rear panel connectors and internal connectors. SABERTOOTH Z170 S...

[Page 24: Layout Contents](#)

Layout contents Connectors/Jumpers/Buttons and switches/Slots Page 1. ATX power connectors (24-pin EATXPWR, 8-pin EATX12V) 1-30 2. CPU, water pump, CPU optional, assistant fan, extension, and chassis fan 1-28 connectors (4-pin CPU_FAN; 4-pin W_PUMP; 4-pin CPU_OPT; 5-pin EXT_FAN; 4-pin CHA_FAN1-6; 4-pin ASST_FAN1; 3-pin ASST_FAN2) 3.

[Page 25: 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 will shoulder the cost of repair only if the damage is shipment/ transit-related.

[Page 26: System Memory](#)

1.2.4 System memory The motherboard comes with four Double Data Rate 4 (DDR4) Dual Inline Memory Modules (DIMM) slots. A DDR4 module is notched differently from a DDR, DDR2, or DDR3 module. DO NOT install a DDR, DDR2, or DDR3 memory module to the DDR4 slot. Recommended memory configurations 1-10 Chapter 1: Product Introduction...

[Page 27: Memory Configurations](#)

You may install 2 GB, 4 GB, 8 GB, and 16 GB unbuffered and non-ECC DDR4 DIMMs into the DIMM sockets. Visit the ASUS website at www.asus.com for the latest QVL. • You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration.

[Page 28: Expansion Slots](#)

1.2.5 Expansion slots Unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components. Slot No. Slot Description PCIe 3.0/2.0 x1_1 slot PCIe 3.0/2.0 x16_1 slot PCIe 3.0/2.0 x1_2 slot PCIe 3.0/2.0 x16_2 slot PCIe 3.0/2.0 x1_3 slot PCIe 3.0/2.0 x16_3 slot...

[Page 29: Irq Assignments For This Motherboard](#)

IRQ assignments for this motherboard PCIe x16_1 shared PCIe x16_2 shared PCIe x16_3 shared PCIe x1_1 shared PCIe x1_2 shared PCIe x1_3 shared SMBUS Controller shared Intel SATA Controller shared Intel LAN1(i219) shared Intel xHCI shared HD Audio shared SABERTOOTH Z170 S 1-13...

[Page 30: Onboard Buttons](#)

If the installed DIMMs still fail to boot after the whole tuning process, the DRAM_LED lights continuously. Replace the DIMMs with ones recommended in the Memory QVL (Qualified Vendors Lists) on the ASUS website at www.asus.com.

[Page 31: Jumpers](#)

• Due to chipset behavior, AC power off is required to enable C.P.R. function. You must turn off and on the power supply or unplug and plug the power cord before rebooting the system. SABERTOOTH Z170 S 1-15...

[Page 32](#) CPU Over Voltage jumper (3-pin CPU_OV) The CPU Over Voltage jumper allows you to set a higher CPU voltage for a flexible overclocking system, depending on the type of the installed CPU. To gain more CPU voltage setting, insert the jumper to pins 2-3. To go back to its default CPU voltage setting, insert the jumper to pins 1-2.

[Page 33: Onboard Leds](#)

ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard LED. The LED color might vary according to model. SABERTOOTH Z170 S 1-17...

[Page 34: Internal Connectors](#)

1.2.9 Internal connectors Intel Serial ATA 6.0 Gb/s connectors (7-pin SATA6G_56 [black]; ® SATAEXPRESS12 [gray]) These connectors connect to Serial ATA 6.0 Gb/s hard disk drives via Serial ATA 6 Gb/s signal cables. If you installed Serial ATA hard disk drives, you can create a RAID 0, 1, 5, and 10 configuration with the Intel Rapid Storage Technology through the onboard Intel ®...

[Page 35](#) The plugged USB 3.0 device may run on xHCI or EHCI mode depending on the operating system's setting. • These USB 3.0 ports support native UASP transfer standard in Windows 8.1 and ® Turbo Mode when using USB 3.1 Boost feature. SABERTOOTH Z170 S 1-19...

[Page 36](#) Digital audio connector (4-1 pin SPDIF_OUT) This connector is for an additional Sony/Philips Digital Interface (S/PDIF) port. Connect the S/PDIF Out module cable to this connector, then install the module to a slot opening at the back of the system chassis. The S/PDIF module is purchased separately.

[Page 37](#) DO NOT connect a 1394 cable to the USB connectors. Doing so will damage the motherboard! You can connect the front panel USB cable to the ASUS Q-Connector (USB, dark brown) first, and then install the Q-Connector (USB) to the USB connector onboard if your chassis supports front panel USB ports.

[Page 38](#) CPU, water pump, CPU optional, assistant fan, extension, and chassis fan connectors (4-pin CPU_FAN; 4-pin W_PUMP; 4-pin CPU_OPT; 5-pin EXT_FAN; 4-pin CHA_FAN1-6; 4-pin ASST_FAN1; 3-pin ASST_FAN2) Connect the fan cables to the fan connectors on the motherboard. • DO NOT forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components.

[Page 39](#) • If you want to connect a high-definition or an AC 97 front panel audio module to this connector, set the Front Panel Type item in the BIOS setup to [HD Audio] or [AC97]. SABERTOOTH Z170 S 1-23...

[Page 40](#) ATX power connectors (24-pin EATXPWR; 8-pin EATX12V) These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit. •...

[Page 41: System Panel Connector](#)

The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event. SABERTOOTH Z170 S 1-25...

[Page 42](#) TPM connector (14-1 pin TPM) This connector supports a Trusted Platform Module (TPM) system, which securely store keys, digital certificates, passwords and data. A TPM system also helps enhance the network security, protects digital identities, and ensures platform integrity. DirectKey connector (2-pin DRCT) This connector is for the chassis-mounted button that supports the DirectKey function.

[Page 43](#) This socket allows you to install an M.2 (NGFF) SSD module. • This socket supports M Key and type 2242/2260/2280/22110 storage devices. • The M.2 Socket 3 shares bandwidth with SATA Express_1 slot. The M.2 (NGFF) SSD module is purchased separately. SABERTOOTH Z170 S 1-27...

[Page 44](#) 1-28 Chapter 1: Product Introduction...

[Page 45: Chapter 2: Basic Installation](#)

Building your PC system 2.1.1 IO Cover installation The SABERTOOTH Z170 S motherboard package can be installed with a 40 mm assistant fan for additional cooling solution and better airflow. To install the 40 mm assistant fan: Locate and remove the screw on the back I/O (A) then remove the back I/O fan cover lid (B).

[Page 46](#) Align and insert the cover lid and the assistant fan assembly into the IO Cover and secure it with the screw that you removed in step 1. Ensure to tuck the fan cable inside the cable corner slot. Connect the fan cable connector to the assistant fan (ASST_FAN1) header on the motherboard.

[Page 47: Motherboard Installation](#)

Back I/O dust frame Back I/O dust grid I/O shield Clean your back I/O dust filter from time to time, especially when it is dirty, to ensure optimum airflow. Install the ASUS Q-Shield to the chassis rear I/O panel. SABERTOOTH Z170 S...

[Page 48](#) Place the motherboard into the chassis, ensuring that its rear I/O ports are aligned to the chassis' rear I/O panel. Place nine (9) screws into the holes indicated by circles to secure the motherboard to the chassis. Chapter 2: Basic Installation...

[Page 49](#) DO NOT over tighten the screws! Doing so can damage the motherboard. SABERTOOTH Z170 S...

[Page 50: Cpu Installation](#)

2.1.3 CPU installation Ensure that you install the correct CPU designed for LGA1151 socket only. DO NOT install a CPU designed for LGA1155 and LGA1156 sockets on the LGA1151 socket. Top of CPU Bottom of CPU Bottom of CPU Chapter 2: Basic Installation...

[Page 51](#) Always firmly hold both sides of the CPU Installation Tool when installing, removing, or picking up the CPU Installation Tool. • ASUS will not cover damages resulting from incorrect CPU installation/removal, incorrect CPU orientation/placement, or other damages resulting from negligence by the user.

[Page 52: Cpu Heatsink And Fan Assembly Installation](#)

2.1.4 CPU heatsink and fan assembly installation Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan, if necessary. To install the CPU heatsink and fan assembly Chapter 2: Basic Installation...

[Page 53](#) To uninstall the CPU heatsink and fan assembly SABERTOOTH Z170 S...

[Page 54: Dimm Installation](#)

2.1.5 DIMM installation To remove a DIMM Chapter 2: Basic Installation 2-10...

[Page 55: Atx Power Connection](#)

2.1.6 ATX Power connection SABERTOOTH Z170 S 2-11...

[Page 56: Sata Device Connection](#)

2.1.7 SATA device connection Chapter 2: Basic Installation 2-12...

[Page 57: Front I/O Connector](#)

2.1.8 Front I/O Connector To install ASUS Q-Connector To install USB 2.0 connector To install front panel audio connector AAFP USB 2.0 To install USB 3.0 connector USB 3.0 SABERTOOTH Z170 S 2-13...

[Page 58: Expansion Card Installation](#)

2.1.9 Expansion Card installation To install PCIe x16 cards To install PCIe x1 cards Chapter 2: Basic Installation 2-14...

[Page 59: Bios Update Utility](#)

• Updating BIOS may have risks. If the BIOS program is damaged during the process and results to the system's failure to boot up, please contact your local ASUS Service Center. SABERTOOTH Z170 S...

[Page 60: Motherboard Rear And Audio Connections](#)

Motherboard rear and audio connections 2.3.1 Rear I/O connection Rear panel connectors USB 3.0 ports 56 (supports USB 3.0 USB 2.0 ports 7-10 Boost, bottom port supports USB BIOS Flashback) TUF Detective port (supports TUF USB Type-C port (supports USB 3.1 Detective 2 only) Boost) USB 3.1 port (supports USB 3.1...

[Page 61](#) Line Out Front Speaker Out Front Speaker Out Front Speaker Out Pink Mic In Mic In Mic In Mic In Orange - - Center/Subwoofer Center/Subwoofer Black - Rear Speaker Out Rear Speaker Out Rear Speaker Out SABERTOOTH Z170 S 2-17...

[Page 62: Audio I/O Connections](#)

2.3.2 Audio I/O connections Audio I/O ports Connect to Headphone and Mic Connect to Stereo Speakers Connect to 2.1 channel Speakers Chapter 2: Basic Installation 2-18...

[Page 63](#) Connect to 4.1 channel Speakers Connect to 5.1 channel Speakers Connect to 7.1 channel Speakers SABERTOOTH Z170 S 2-19...

[Page 64: Starting Up For The First Time](#)

Starting up for the first time After making all the connections, replace the system case cover. Ensure that all switches are off. Connect the power cord to the power connector at the back of the system chassis. Connect the power cord to a power outlet that is equipped with a surge protector. Turn on the devices in the following order: Monitor External SCSI devices (starting with the last device on the chain)

[Page 65: Chapter 3: Bios Setup](#)

BIOS Setup Knowing BIOS The new ASUS UEFI BIOS is a Unified Extensible Interface that complies with UEFI architecture, offering a user-friendly interface that goes beyond the traditional keyboard- only BIOS controls to enable a more flexible and convenient mouse input. You can easily navigate the new UEFI BIOS with the same smoothness as your operating system.

[Page 66: Bios Setup Program](#)

BIOS setup program Use the BIOS Setup to update the BIOS or configure its parameters. The BIOS screen include navigation keys and brief onscreen help to guide you in using the BIOS Setup program. Entering BIOS at startup To enter BIOS Setup at startup, press <Delete> during the Power-On Self Test (POST). If you do not press <Delete>, POST continues with its routines.

[Page 67: Ez Mode](#)

Click to go to Advanced mode Loads optimized Search on the FAQ default settings Click to display boot devices Selects the boot device priority The boot device options vary depending on the devices you installed to the system. SABERTOOTH Z170 S...

[Page 68: Advanced Mode](#)

3.2.2 Advanced Mode The Advanced Mode provides advanced options for experienced end-users to configure the BIOS settings. The figure below shows an example of the Advanced Mode. Refer to the following sections for the detailed configurations. To switch from EZ Mode to Advanced Mode, click Advanced Mode or press <F7> hotkey. Configuration fields Quick Note (F9) Scroll bar...

[Page 69: Menu Bar](#)

This button above the menu bar allows you to view and tweak the overclocking settings of your system. It also allows you to change the motherboard's SATA mode from AHCI to RAID mode. Refer to section 3.2.4 EZ Tuning Wizard for more information. SABERTOOTH Z170 S...

[Page 70: Hot Keys](#)

Move your mouse over this button to show a QR code, scan this QR code on your mobile device to connect to the BIOS FAQ web page of the ASUS support website. You can also scan the following QR code:...

[Page 71: Q-Fan Control](#)

Click to activate DC Mode configured PWM Mode Select a profile to Click to apply the fan setting apply to your fans Click to go back to main menu Click to undo the changes Select to manually configure your fans SABERTOOTH Z170 S...

[Page 72](#) Configuring fans manually Select Manual from the list of profiles to manually configure your fans' operating speed. Speed points Select to manually configure your fans To configure your fans: Select the fan that you want to configure and to view its current status. Click and drag the speed points to adjust the fans'...

[Page 73: Ez Tuning Wizard](#)

To start OC Tuning: Press <F11> on your keyboard or click from the BIOS screen to open EZ Tuning Wizard screen. Click OC then click Next. Select a PC scenario Daily Computing or Gaming/Media Editing, then click Next. SABERTOOTH Z170 S...

[Page 74: Creating Raid](#)

Select a Main Cooling System BOX cooler, Tower cooler, Water cooler, or I'm not sure, then click Next. After selecting the Main Cooling System, click Next then click Yes to start the OC Tuning. Creating RAID To create RAID: Press <F11> on your keyboard or click from the BIOS screen to

open EZ Tuning Wizard screen.

[Page 75](#) Speed (RAID5). After selecting the type of RAID, click Next then click Yes to continue the RAID setup. After the RAID setup is done, click Yes to exit the setup then click OK to reset your system. SABERTOOTH Z170 S 3-11...

[Page 76: My Favorites](#)

My Favorites My Favorites is your personal space where you can easily save and access your favorite BIOS items. My Favorites comes with several performance, power saving, and fast boot related items by default. You can personalize this screen by adding or removing items. Chapter 3: BIOS Setup 3-12...

[Page 77](#) • Configuration items such as Memory SPD Information, system time and date. Click Exit (ESC) or press <Esc> key to close Setup Tree Map screen. Go to My Favorites menu to view the saved BIOS items. SABERTOOTH Z170 S 3-13...

[Page 78: Main Menu](#)

Main menu The Main menu screen appears when you enter the Advanced Mode of the BIOS Setup program. 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. Security The Security menu items allow you to change the system security settings.

[Page 79: Administrator Password](#)

To clear the user password, follow the same steps as in changing a user password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the User Password item on top of the screen shows [Not Installed]. SABERTOOTH Z170 S 3-15...

[Page 80: Ai Tweaker Menu](#)

Ai Tweaker menu The Ai Tweaker menu items allow you to configure overclocking-related items. Be cautious when changing the settings of the Ai Tweaker menu items. Incorrect field values can cause the system to malfunction. The configuration options for this section vary depending on the CPU and DIMM model you installed on the motherboard.

[Page 81](#) ASUS MultiCore Enhancement [Auto] [Auto] This item allows you to maximize the overlocking performance optimized by ASUS core ratio settings. [Disabled] This item allows you to set to default core ratio settings. CPU Core Ratio [Sync All Cores] This item allows you to set the CPU core ratio limit per core or synchronize automatically to all cores.

[Page 82](#) Ensure to use water cooling device before selecting [TPU II]. EPU Power Saving Mode [Disabled] The ASUS EPU (Energy Processing Unit) sets the CPU in its minimum power consumption settings. Enable this item to set lower CPU core/cache voltage and achieve the best energy saving condition.

[Page 83](#) This item provides a total power range for CPU overclocking. A higher value setting provides higher power consumption delivery and extends the overclocking frequency range simultaneously. Configuration options: [Auto] [100%] [110%] [120%] [130%] [140%] Configure higher values when overclocking or under a high CPU loading for extra power support. SABERTOOTH Z170 S 3-19...

[Page 84](#) CPU VRM Switching Frequency [Auto] This item affects the VRM transient response speed and the component thermal production. Select [Manual] to configure a higher frequency for a quicker transient response speed. Configuration options: [Auto] [Manual] DO NOT remove the thermal module. The thermal conditions should be monitored. The following item appears only when you set the CPU VRM Switching Frequency to [Manual].

[Page 85](#) Boot Voltages CPU Core/Cache Boot Voltage [Auto] The voltage for CPU at initial boot. Configuration options: [Auto] [0.600] - [1.700] DMI Boot Voltage [Auto] The voltage for DMI at initial boot. Configuration options: [Auto] [0.300] - [1.900] SABERTOOTH Z170 S 3-21...

[Page 86](#) CPU System Agent Boot Voltage [Auto] The voltage for CPU System Agent at initial boot. Configuration options: [Auto] [0.7000] - [1.8000] CPU VCCIO Boot Voltage [Auto] The voltage for CPU VCCIO at initial boot. Configuration options: [Auto] [0.7000] - [1.8000] CPU

Standby Boot Voltage [Auto] The voltage for CPU Standby at initial boot.

[Page 87](#) Configuration options: [Auto] [0.00] - [255.50] Min. CPU Cache Ratio [Auto] This item allows you to set the minimum possible CPU cache ratio. Use the <+> and <-> keys to adjust the value. Configuration options: [Auto] [8] - [33] SABERTOOTH Z170 S 3-23...

[Page 88](#) Max. CPU Cache Ratio [Auto] This item allows you to set the maximum possible CPU cache ratio. Use the <+> and <-> keys to adjust the value. Configuration options: [Auto] [8] - [33] Extreme Over-voltage [Disabled] Enable this item to allow higher voltages for overclocking, but the CPU lifetime will not be guaranteed Configuration options: [Disabled] [Enabled] This item can only be enabled when the onboard CPU_OV jumper is switched on.

[Page 89](#) DRAM voltage times the configured value. Configuration options: [Auto] [0.39500] - [0.63000] DRAM DATA REF Voltage on CHA/CHB DIMM0/1 Rank0/1 BL0-7 [Auto] Configures the DRAM Data REF Voltage. Configuration options: [Auto] [0] - [63] SABERTOOTH Z170 S 3-25...

[Page 90: Advanced Menu](#)

Advanced menu The Advanced menu items allow you to change the settings for the CPU and other system devices. Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction. 3.6.1 CPU Configuration The items in this menu show the CPU-related information that the BIOS automatically detects.

[Page 91](#) This item allows you to disable or enable the CPU C3 report to the operating system. Configuration options: [Enabled] [Disabled] CPU C6 Report [Enabled] This item allows you to disable or enable the CPU C6 report to the operating system. Configuration options: [Enabled] [Disabled] CPU C7 Report [CPU C7s] SABERTOOTH Z170 S 3-27...

[Page 92: Platform Misc Configuration](#)

This item allows you to disable or enable the CPU C7 report to the operating system. Configuration options: [Disabled] [CPU C7] [CPU C7s] CPU C8 Report [Enabled] This item allows you to disable or enable the CPU C8 report to the operating system.

[Page 93: System Agent \(Sa\) Configuration](#)

ASPM to take effect. Configuration options: [Disabled] [L1] PEG - ASPM [Disabled] This item allows you to select the ASPM state for energy-saving conditions, or use the ASUS optimized energy saving profile. Configuration options: [Disabled] [Auto] [ASPM L0s] [ASPM L1] [ASPM L0sL1] 3.6.3...

[Page 94: Pch Configuration](#)

iGPU Multi-Monitor [Disabled] This item allows you to enable the iGPU Multi-Monitor. The iGPU shared system memory size is fixed 64 MB. Configuration options: [Disabled] [Enabled] DMI/OPI Configuration This item allows you to control various DMI (direct media interface) functions. DMI Max Link Speed [Auto] Set this item to [Enabled] to set DMI speed.

[Page 95: Pch Storage Configuration](#)

SATA Port items show Not Present if no SATA device is installed to the corresponding SATA port. Scroll down to display the other BIOS items. Hyper kit Mode [Disabled] This item allows you to enable or disable M.2 devices. Enable this option for "ASUS Hyper kit" card. Configuration options: [Disabled] [Enabled] SATA Controller(s) [Enabled] This item allows you to enable or disable the SATA Device.

[Page 96: Usb Configuration](#)

SATA Express_1 PCIe Storage RAID Support [Disabled] This item allows you to enable or disable PCIe port to SATA for RAID Remapping. Configuration options: [Disabled] [Enabled] PCIEX16_3 PCIe Storage RAID Support [Disabled] This item allows you to enable or disable PCIe port to SATA for RAID Remapping. Configuration options: [Disabled] [Enabled] SMART Self Test [On] SMART (Self-Monitoring, Analysis and Reporting Technology) is a monitoring system that...

[Page 97: Network Stack Configuration](#)

Configuration options: [Disable] [Enable] The following item appears only when you set the Network Stack to [Enabled]. Ipv4/Ipv6 PXE Support [Enabled] This item allows you to enable or disable the Ipv4/Ipv6 PXE wake event. Configuration options: [Disabled] [Enabled] SABERTOOTH

[Page 98: Onboard Devices Configuration](#)

3.6.8 Onboard Devices Configuration Scroll down to view the other BIOS items. HD Audio Controller [Enabled] This item allows you to use the Azalia High Definition Audio Controller Configuration options: [Disabled] [Enabled] The following items appear only when you set the HD Audio Controller to [Enabled]. Front Panel Type [HD Audio] This item allows you to set the front panel audio connector (AAFP) mode to legacy AC'97 or high-definition audio depending on the audio standard that the front panel...

[Page 99: Apm Configuration](#)

This item allows your system to go to ON state, OFF state, or both states after an AC power loss. When setting your system to [Last State], it goes to the previous state before the AC power loss. Configuration options: [Power Off] [Power On] [Last State] SABERTOOTH Z170 S 3-35...

[Page 100: Hdd/Ssd Smart Information](#)

Power On By PCI-E/PCI [Disabled] This item allows you to enable or disable the Wake-on-LAN function of the onboard LAN controller or other installed PCI-E LAN cards. Configuration options: [Disabled] [Enabled] Power On By RTC [Disabled] This item allows you to enable or disable the RTC (Real-Time Clock) to generate a wake event and configure the RTC alarm date.

[Page 101: Monitor Menu](#)

N/A. Select [Ignore] if you do not wish to display the detected speed. CPU Core Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators. Select [Ignore] if you do not want to detect this item. SABERTOOTH Z170 S 3-37...

[Page 102](#) Qfan Configuration Qfan Tuning Click this item to automatically detect the lowest speed and configure the minimum duty cycle for each fan. CPU Q-Fan Control [Auto] [Auto] Detect the type of CPU fan installed and automatically switches the mode control. [PWM Mode] Enable the CPU Q-Fan control feature in PWM mode for 4-pin CPU fan.

[Page 103](#) [153 sec] [178 sec] [204 sec] Chassis Fan 1-6 Fan Speed Low Limit [200 RPM] This item allows you to disable or set the chassis fan warning speed. Configuration options: [Ignore] [200 RPM] [300 RPM] [400 RPM] [500 RPM] [600 RPM] SABERTOOTH Z170 S 3-39...

[Page 104](#) Chassis Fan 1-6 Profile [Standard] This item allows you to set the appropriate performance level of the chassis fan. [Standard] Sets to [Standard] to make the chassis fan automatically adjust depending on the chassis temperature. [Silent] Sets to [Silent] to minimize the fan speed for quiet chassis fan operation.

[Page 105](#) Use the <+> or <-> keys to adjust the maximum Assistant Fan 1-2 duty cycle. The values range from 20% to 100%. When the CPU temperature reaches the upper limit, the Assistant Fan 1-2 will operate at the maximum duty cycle. SABERTOOTH Z170 S 3-41...

[Page 106](#) This item allow the fan to run at 0% duty cycle when the temperature of the source is dropped below the lower temperature. Configuration options: [Disabled] [Enabled] Ext. Fan(s) Configuration ASUS FAN EXTENSION CARD is required to configure these items Extension Fan 1-3 Q-Fan Control [DC Mode] [Disabled] Disable the Extension Fan Q-Fan control feature.

[Page 107](#) Water Pump will operate at the maximum duty cycle. Water Pump Middle Temperature [45] Use the <+> or <-> keys to adjust the middle limit of the Water Pump temperature. The values range from 20 to 75. SABERTOOTH Z170 S 3-43...

[Page 108](#) Water Pump Middle. Duty Cycle (%) [100] Use the <+> or <-> keys to adjust the maximum Water Pump duty cycle. The values range from 20% to 100%. When the CPU temperature reaches the upper limit, the Water Pump will operate at the maximum duty cycle. Water Pump Lower Temperature [40] Use the <+>...

[Page 109: Boot Menu](#)

[Full Screen] Sets the boot logo display in full screen during POST. [Disabled] Disables the boot logo display during POST. The following item appears only when you set the Boot Logo Display

to [Auto] and [Full Screen]. SABERTOOTH Z170 S 3-45...

[Page 110](#) Configuration options: [Disabled] [Enabled] Option ROM Messages [Enabled] [Enabled] The Option ROM Messages will be shown during the POST. [Disabled] Only the ASUS logo will be shown during the POST. Interrupt 19 Capture [Disabled] [Enabled] Execute the trap right away. [Disabled] Execute the trap during legacy boot.

[Page 111: Secure Boot](#)

Key Management Clear Secure Boot keys This item allows you to clear all default Secure Boot keys. Save Secure Boot Keys This item allows you to save the PK (Platform Keys) to a USB storage device. SABERTOOTH Z170 S 3-47...

[Page 112](#) PK Management Set New Key This item allows you to load the downloaded PK from a USB storage device. The PK file must be formatted as a UEFI variable structure with time-based authenticated variable. Delete Key This item allows you to delete the PK from your system. Once the PK is deleted, all the system's Secure Boot keys will not be active.

[Page 113: Boot Option Priorities](#)

OS in Safe Mode, press <F8> after POST (Windows 8 not supported). • To select the boot device during system startup, press <F8> when the ASUS Logo appears. Boot Override These items displays the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.

[Page 114: Tool Menu](#)

To launch Secure Erase, click Tool > Secure Erase on the Advanced mode menu. Check the ASUS support site for a full list of SSDs tested with Secure Erase. The drive may become unstable if you run Secure Erase on an incompatible SSD.

[Page 115](#) Locked. SSDs might be locked if the Secure Erase process is either incomplete • or was stopped. This may be due to a third party software that uses a different password defined by ASUS. You have to unlock the SSD in the software before proceeding with Secure Erase. SABERTOOTH Z170 S...

[Page 116: Asus Overclocking Profile](#)

3.9.3 ASUS Overclocking Profile This item allows you to store or load multiple BIOS settings. Load from Profile This item allows you to load the previous BIOS settings saved in the BIOS Flash. Key in the profile number that saved your BIOS settings, press <Enter>, and then select Yes.

[Page 117: Asus Spd Information](#)

This item displays the information and recommended configuration for the PCIE slots that the graphics card is installed in your system. Bus Interface [PCIEX16_1] This item allows you to select the bus interface. Configuration options: [PCIEX16_1] SABERTOOTH Z170 S 3-53...

[Page 118: Exit Menu](#)

3.10 Exit menu The Exit menu items allow you to load the optimal default values for the BIOS items, and save or discard your changes to the BIOS items. You can access the EZ Mode from the Exit menu. Load Optimized Defaults This option allows you to load the default values for each of the parameters on the Setup menus.

[Page 119: Updating Bios](#)

® Updates the BIOS via Internet or using a USB drive. ASUS CrashFree BIOS 3: Restores the BIOS using the motherboard support DVD or a USB flash drive when the BIOS file fails or gets corrupted. ASUS BIOS Updater: Updates the BIOS in DOS environment using the motherboard support DVD and a USB flash disk drive.

[Page 120: Asus Ez Flash 3](#)

3.11.2 ASUS EZ Flash 3 ASUS EZ Flash 3 allows you to download and update to the latest BIOS through the Internet without having to use a bootable floppy disk or an OS-based utility. Updating through the Internet varies per region and Internet conditions. Check your local

Internet connection before updating through the Internet.

[Page 121](#) To update the BIOS by Internet: Enter the Advanced Mode of the BIOS setup program. Go to the Tool menu to select ASUS EZ Flash Utility and press <Enter>. Select by Internet. Press the Left/Right arrow keys to select an Internet connection method, and then press <Enter>.

[Page 122: Asus Crashfree Bios 3](#)

The BIOS file in the motherboard support DVD may be older than the BIOS file published on the ASUS official website. If you want to use the newer BIOS file, download the file at <https://www.asus.com/support/> and save it to a USB flash drive.

[Page 123: Chapter 4: Software Support](#)

7.  Method 1: Using SATA ODD & USB devices Load USB 3.0 drivers using the ASUS support DVD and install Windows 7 using a USB  device. Requirement: • 1 x ASUS support DVD • 1 x Windows 7 installation source  • 1 x SATA ODD • 1 x USB device (ODD or storage) The USB storage device requires 8 GB or more capacity. It is recommended to format the storage device before use. Insert the Windows 7 installation DVD into a SATA ODD, or copy all files on the  Windows 7 installation DVD to a USB storage device on a working system.  Connect the USB ODD or USB storage device to your 100 series platform. Insert the ASUS support DVD into a SATA ODD on your 100 series platform. Power on your system and press F8 during POST (Power-On Self Test) to enter the boot screen. SABERTOOTH Z170 S...

[Page 124](#) Select the USB ODD or USB storage device as the boot device. The USB 3.0 driver will be loaded automatically during installation startup. The “Setup is starting...” screen will show up if the USB 3.0 driver is loaded correctly. Follow the onscreen instructions to complete the Windows 7 installation.  Chapter 4: Software Support...

[Page 125](#)   Requirement: • 1 x ASUS support DVD • 1 x Windows 7 installation source  • 1 x Working system (PC or notebook) • 1 x SATA ODD On your working system, create an ISO image file of the Windows 7 installation  source using a third-party ISO software. Copy both “Auto_Unattend.xml” and “Auto_Unattend” folder from the root directory of the ASUS supporting DVD to your system. Edit the ISO file and add both “Auto_Unattend.xml” and “Auto_Unattend” folder into the ISO file. Burn this ISO file onto an empty DVD to create a modified Windows 7 installation  DVD. Insert the modified Windows 7 installation DVD into an ODD on your 100 series  platform. Power on your system and press F8 during POST (Power-On Self Test) to enter the boot screen. Select the ODD as the boot device. The USB 3.0 driver will be loaded automatically during installation startup. The “Setup is starting...” screen will show up if the USB 3.0 driver is loaded correctly. Follow the onscreen instructions to complete the Windows 7 installation.  SABERTOOTH Z170 S...

[Page 126](#) Method 3: Using ASUS EZ Installer Use the ASUS EZ Installer to create a modified Windows 7 installation source.  Requirement: • 1 x ASUS support DVD • 1 x Windows 7 installation DVD  • 1 x Working system (PC or notebook) • 1 x SATA ODD • 1 x USB storage device (8 GB or more) Insert the Windows 7 installation DVD.  Launch the ASUS EZ Installer located on the ASUS support DVD. Select a method of creating a modified Windows 7 installation file:  • Windows 7 OS disk to USB storage device  - Select Windows 7 OS disk to USB storage device then click Next.

[Page 127](#) - Select the source of the Windows 7 installation disk then click Next.  - Select the USB storage device and click next. Click the refresh icon if the USB storage device is not displayed. - Click Yes to clear the contents on the USB storage device and create a bootable USB device. Make sure to backup contents on the USB storage device, as it will be formatted. - Once completed, click OK to finish. SABERTOOTH Z170 S...

[Page 128](#) • Windows 7 OS disk to ISO file  - Select Windows 7 OS disk to ISO file then click Next. - Check I agree and then click Next. - Select the source of the Windows 7 installation disk then click Next.  Chapter 4: Software Support...

[Page 129](#) - Select the folder to save the modified Windows 7 installation ISO file and click  Next. - Once completed, click OK to finish. - Burn this ISO file onto an empty DVD to create a modified Windows  installation DVD. Insert the modified Windows 7 installation DVD into an ODD or connect the USB  storage device with modified Windows 7 installation files onto your 100 series  platform. Power on your system and press F8 during POST (Power-On Self Test) to enter the boot screen. Select the ODD or USB storage device as the boot device. The USB 3.0

driver will be loaded automatically during installation startup. The “Setup is starting...” screen will show up if the USB 3.0 driver is loaded correctly. Follow the onscreen instructions to complete the Windows 7 installation. © SABERTOOTH Z170 S...

[Page 130: Support Dvd Information](#)

Support DVD information The contents of the support DVD are subject to change at any time without notice. Visit the ASUS website at www.asus.com for updates. 4.2.1 Running the support DVD Ensure that you have an Administrator account before running the support DVD in Windows 7, Windows 8.1, or Windows 10 operating systems. © © © To run the support DVD: Place the Support DVD into the optical drive. In the AutoPlay dialog box, click or tap Run ASSETUP.EXE. If the AutoPlay dialog box does not appear, browse the contents of the support DVD and double-click or tap \\bin\ASSETUP.EXE to launch the ASUS motherboard support DVD main menu. Chapter 4: Software Support...

[Page 131: Obtaining The Software Manuals](#)

Click an item to open the folder of the user guide Click to display product related information Click to display the ASUS contact information Click to browse the file list of the suport CD Click to install the selected items 4.2.2 Obtaining the software manuals The software manuals are included in the support DVD. Follow the instructions below to get...

[Page 132: Software Information](#)

Software information Most of the applications in the support DVD have wizards that will conveniently guide you through the installation. View the online help or readme file that came with the software application for more information. AI Suite 3 AI Suite 3 is an all-in-one interface that integrates several ASUS utilities and allows you to launch and operate these utilities simultaneously. Installing AI Suite 3 Ensure that you have an Administrator account before installing AI Suite 3 in Windows 7, © Windows 8.1, or Windows 10 operating systems. © © To install AI Suite 3 on your computer: Windows 7 OS © Place the Support DVD into the optical drive. 2. In the AutoPlay dialog box, click or tap Run ASSETUP.exe then select the Utilities tab. 3. From the Utilities tab, click or tap AI Suite 3 then follow the succeeding onscreen instructions. Chapter 4: Software Support...

[Page 133](#) Go to the Start Screen then click or tap the Desktop app. On the lower left corner of the Desktop, click or tap File Explorer then select your DVD drive and tap or double-click or tap the Setup application. Launching AI Suite 3 Windows 7 OS © From the Desktop, click or tap Start > All Programs > ASUS > AI Suite 3 > AI Suite 3. You can also launch AI Suite in Windows 7 by clicking or tapping on the Notification © area. Windows 8.1 and Windows 10 OS ©...

[Page 134](#) AI Suite 3 Main menu The AI Suite 3 main menu gives you easy-access controls and insight to what’s going on with your computer - allowing you to optimize performance settings while at the same time ensuring system stability. The AI Suite main menu includes a quick-access menu bar that allows you to swiftly launch any of the integrated ASUS utilities. Click on the left of the menu to launch the menu bar. The AI Suite 3 screenshots in this section are for reference only and can vary depending on motherboard model. Click to launch AI Suite 3 menu bar AI Suite 3 main menu bar • Some functions in the AI Suite 3 main menu in this user guide may vary depending on the motherboard model. • Refer to the software manual in the support DVD or visit the ASUS website at www.asus.com for detailed software configuration. Chapter 4: Software Support 4-12...

[Page 135: Fan Control](#)

Thermal Tuning process Fan Control Allows you to configure the settings of the fans installed on your system. You can also load or save a fan’s profile to tune the thermal condition of your system. Click or tap to load saved profiles Click or tap to switch between items Click or tap to save the settings of the new profile Fan Overtime settings SABERTOOTH Z170 S 4-13...

[Page 136](#) Allows you to configure the thermal settings of an installed ASUS graphics card. • The VGA tab on Thermal Radar 2 appears only when you install an optional ASUS graphics card into your system. • The VGA feature of Thermal Radar 2 supports ASUS NVidia 700/900 Series and AMD R7/R9 Series graphics card only. VGA - Auto Mode The system loads the optimal values for the graphic card’s thermal settings. Click to save a new profile Click to load a saved profile VGA - Smart Mode Manually adjust the acceleration and deceleration time of the graphic card’s fans. Click to apply changes Click to undo changes Click to save a new...

[Page 137](#) Move the slider up or down to adjust the settings Click to save a new profile Click to load a saved profile Thermal Status Displays the current status of the thermal condition of

your system. Click or tap to run the assessment report of your current thermal settings. SABERTOOTH Z170 S 4-15...

[Page 138](#) Recorder Displays and monitors the status of the thermal setting and condition of your system. Click or tap to scroll down/up DIGI+ Power Control ASUS DIGI+ Power Control features the revolutionary and innovative digital VRM and DRAM Voltage controllers. These controllers offers ultra-precise memory and voltage tuning for optimal system efficiency, stability and performance. Click or tap to go the CPU configurations screen Click or tap to go the DRAM configurations screen Chapter 4: Software Support 4-16...

[Page 139](#) DIGI+PowerControl - DRAM Click or tap to undo Click or tap to apply Click or tap to go back the changes the changes to the previous screen SABERTOOTH Z170 S 4-17...

[Page 140](#) DIGI+PowerControl - GPU Click or tap to apply Click or tap to go back Click or tap to undo the changes to the previous screen the changes Chapter 4: Software Support 4-18...

[Page 141: Ai Charger](#)

Launching Ai Charger+ To launch Ai Charger+, click on the left of the AI Suite 3 main menu, then select Ai Charger+. Ai Charger+ is available only in selected motherboard models. Ai Charger+ screen Tick to enable or Click or tap to apply disable Ai Charger+ the selection • * Check the manufacturer if your USB device is a Battery Charging Specification 1.1 (BC 1.1) compliant or compatible device. • ** Actual charging speeds may vary depending on the charging rate and specifications of your USB device. • To ensure normal charging function, disconnect and reconnect your USB device every time you enable or disable Ai Charger+. • Ai Charger+ does not support USB hubs, USB extension cables, and generic USB cables. SABERTOOTH Z170 S 4-19...

[Page 142: Ez Update](#)

4.4.2 EZ Update EZ Update is a utility that allows you to automatically update your motherboard's software, drivers and BIOS easily. With this utility, you can also manually update the BIOS and select the boot logo that displays during POST. Launching EZ Update To launch EZ Update, click on the left of the AI Suite 3 main menu, then select EZ Update. Using EZ Update Click or tap to automatically update your motherboard driver, software and firmware Click or tap to search and select the BIOS file Click or tap to select a Click or tap to boot logo update the BIOS...

[Page 143](#) Click or tap to search an image file for your boot logo Click or tap to go back to Click or tap to proceed the updating EZ Update main screen BIOS and boot logo After you click or tap BIOS Update button, click or tap Flash to update the BIOS and upload the boot logo in your system. SABERTOOTH Z170 S 4-21...

[Page 144: Usb Bios Flashback](#)

4.4.3 USB BIOS Flashback USB BIOS Flashback allows you to check and save the latest BIOS version to a USB storage device. Use this utility to quickly check for the latest available BIOS and set the BIOS download schedule. Launching USB BIOS Flashback To launch USB BIOS Flashback, click on the left of the AI Suite 3 main menu, then select USB BIOS Flashback. USB BIOS Flashback is available only in selected motherboard models. Using USB BIOS Flashback Set a schedule for the BIOS Update download Click or tap to cancel the download schedule setting Click or tap to apply the download schedule setting Click or tap to check for a new BIOS update available for download...

[Page 145](#) Downloading the latest BIOS Before you start downloading, ensure that you have installed the USB storage device to your computer's USB port that supports USB BIOS Flashback. Refer to section 2.3.1 Rear I/O connection of this user guide for more details. To download the updated BIOS: From the USB BIOS Flashback screen, click or tap Check for New BIOS Update. Wait for the system to check the latest BIOS version. After the utility detects a new BIOS, click or tap from the Save to: field, select the USB flash drive, then click or tap Download. SABERTOOTH Z170 S After the download is complete, click or tap OK. SABERTOOTH Z170 S 4-23...

[Page 146: Push Notice](#)

4.4.4 Push Notice This utility allows you get the detailed status of your system to your smart device. You can also send messages to your smart device using this utility. Before using this utility, ensure that you pair your computer with your smart device. For pairing information, refer

to section Pairing your computer and smart device. Launching Push Notice on your computer To launch Push Notice, click on the left of the AI Suite 3 main menu, then select Push Notice. Push Notice screen Click or tap to enable or disable Push Notice Tick to select the smart device Click or tap to Click or tap to apply the settings discard the settings...

[Page 147](#) Setting up PC Status alerts This feature allows you to send alerts of the unusual activities of the voltage, temperature, and fan settings of your computer to your smart device. Tick to select the smart device Tick to select and send alerts to your smart device Tick to send alert when the components selected are back to its normal status SABERTOOTH Z170 S 4-25...

[Page 148](#) Sending messages to your smart device This feature allows you to send messages to your smart device. You can also send messages via the Push Notice messaging shortcut on the lower-right corner of your screen. To do this, click or tap << then click or tap then select Tick to select the smart device Click or tap to send your message Click or tap to key Click to clear all the Click to save the in your message text on the text box text message Viewing your computer status on your smart device...

[Page 149: Usb 3.1 Boost](#)

Click or tap to enable UASP or Turbo Mode for a faster data Click or tap to select a USB device transfer rate Ensure to connect your USB 3.1/3.0 device to the USB 3.1/3.0 ports that support USB 3.1 Boost. Refer to section 2.3.1 Rear I/O connection of your user guide for more details. • USB 3.1 Boost automatically detects the USB 3.1/3.0 devices that support UASP. • The data transfer speed varies with USB devices. For a higher data transfer performance, use a USB 3.1 device. SABERTOOTH Z170 S 4-27...

[Page 150: System Information](#)

4.4.6 System Information This utility allows you get the detailed information of the motherboard, CPU, and memory settings. Launching the System Information To launch System Information, click on the left of the AI Suite 3 main menu, then select System Information. Viewing the motherboard information Click or tap the MB tab to view the motherboard's information. Viewing the CPU information Click or tap the CPU tab to view the processor's information. Chapter 4: Software Support 4-28...

[Page 151: Mobo Connect](#)

Viewing the SPD information Click or tap the SPD tab to view the memory's information. 4.4.7 Mobo Connect Mobo Connect allows you to share the PC's keyboard/mouse for smart devices, or stream audio playback from your smart device yo the PC. Launching Mobo Connect To launch Mobo Connect, click on the left of the AI Suite 3 main menu, then select Mobo Connect. SABERTOOTH Z170 S 4-29...

[Page 152: Version](#)

4.4.8 Version Displays the installed software or utilities and their current version. Chapter 4: Software Support 4-30...

[Page 153: Turbo Lan](#)

Click to open an item under these utilities Advanced Mode Using the Advance Mode The Advance Mode allows you to configure the priorities of your programs or applications or configure your network device. To go to the Advanced Mode, click or tap The Advanced Mode contains the following utilities: • Preferences: Allows you to control the network's traffic to optimize the program's performance, favor ping time, and avoid packet loss. • Protocols: Allows you to set priority to the network adapter and its protocol to reduce delay during data transfer, and maintain the speed of Internet access. • Programs: Allows you to set priority to the programs or applications. • Traffic Shaping: Allows you set the priority to the network adapter and its protocol to reduce delay during data transfer and speeds up the Internet access. • Adapter Info: Displays the information about the installed network adapter in your system. • Online Budgets: Allows you to set an online budget time to your network adapters. • Traffic Analysis: Allows you to assign protocols and programs in one set. SABERTOOTH Z170 S 4-31...

[Page 154: Tuf Detective 2](#)

TUF Detective 2 TUF Detective 2 allows you to remotely manage and control your computer using your Android mobile device. It also provides relevant system information. To use TUF Detective 2: Connect your mobile device to the TUF Detective port located at the rear panel. Select this App to install TUF On your mobile device, download and Detective in your mobile phone. install the TUF Detective app. Download the TUF Detective app from Play Store or use

the QR code to find the app. Launch the TUF Detective app to remotely control and manage your computer. Scan the QR code to find the app. 4.6.1 Post The Post page provides the POST (Power-On Self Test) status.. Code for the POST status Details about the POST status.

[Page 155: Control](#)

4.6.2 Control The Control page allows you to Tap the POWER button and remotely control the functions select Yes to power your of your computer. computer on or off. Control Tap the RESTART button Tap FORCE SHUTDOWN to and select Yes to restart your force the system to shutdown computer. without saving data. SABERTOOTH Z170 S 4-33...

[Page 156: Monitor](#)

Tap CLEAR CMOS and select Tap PATCH ERROR and Yes to clear the CMOS RTC select Yes to automatically RAM data. repair your computer. 4.6.3 Monitor The Monitor page allows Tap the triangle icon to monitor you to monitor voltage, the voltage. temperature, and fan speed. Monitor Chapter 4: Software Support 4-34...

[Page 157: Information](#)

Tap the triangle icon to monitor Tap the triangle icon to monitor the temperature. the fan speed. 4.6.4 Information The Information page provides you with important details about the system such as the model name, BIOS version, product number, operating time, CPU information, and DRAM information. Information SABERTOOTH Z170 S 4-35...

[Page 158: Audio Configurations](#)

Audio configurations The Realtek audio CODEC provides 8-channel audio capability to deliver the ultimate audio ® experience on your computer. The software provides Jack-Sensing function, S/PDIF Out support, and interrupt capability. The CODEC also includes the Realtek proprietary UAJ ® ® (Universal Audio Jack) technology for all audio ports, eliminating cable connection errors, and giving users plug and play convenience. Follow the installation wizard to install the Realtek Audio Driver from the support DVD that ® came with the motherboard package. If the Realtek audio software is correctly installed, you will find the Realtek HD Audio ® ® Manager icon on the taskbar. Double-click or tap on the icon to display the Realtek HD ® Audio Manager. Realtek HD Audio Manager ® Realtek HD Audio Manager ® Configuration option tabs (vary with the audio devices connected) Advanced settings Set default device button...

[Page 159](#) Selecting an audio output Realtek HD Audio Manager allows you to select the type of audio output depending on the output device that you are using. To select an audio output: Insert the audio device's jack to the Line Out (lime) port. If the audio device's jack is already inserted to the corresponding port, click or tap on the Realtek HD Audio Manager. On the pop-up window, tick the audio device that you plugged to the Line Out port then click or tap Next. If you select Headphone, click or tap to select the type of headphone installed then click or tap OK. If you select Front Speaker Out, click or tap to select the type of speaker installed then click or tap OK. SABERTOOTH Z170 S 4-37...

[Page 160](#) Chapter 4: Software Support 4-38...

[Page 161: Chapter 5: Raid Configurations](#)

With the RAID 10 configuration you get all the benefits of both RAID 0 and RAID 1 configurations. Use four new hard disk drives or use an existing drive and three new drives for this setup. SABERTOOTH Z170 S...

[Page 162: Installing Serial Ata Hard Disks](#)

5.1.2 Installing Serial ATA hard disks The motherboard supports Serial ATA hard disk drives. For optimal performance, install identical drives of the same model and capacity when creating a disk array. To install the SATA hard disks for a RAID configuration: Install the SATA hard disks into the drive bays.

[Page 163: Intel ® Rapid Storage Technology Option Rom Utility](#)

The RAID BIOS setup screens shown in this section are for reference only and may not exactly match the items on your screen. The utility supports maximum four hard disk drives for RAID configuration. SABERTOOTH Z170 S...

[Page 164](#) Creating a RAID set To create a RAID set: From the utility main menu, select 1. Create RAID Volume and press <Enter>. The following screen appears: Intel(R) Rapid Storage Technology - Option ROM - v10.5.1.1070 Copyright(C) 2003-10 Intel Corporation. All Rights Reserved. [CREATE VOLUME MENU] Name: Volume0...

[Page 165](#) WARNING: ALL DATA ON SELECTED DISKS WILL BE LOST. Are you sure you want to create this volume? (Y/N): Press <Y> to create the RAID volume and return to the main menu, or <N> to go back to the CREATE VOLUME menu. SABERTOOTH Z170 S...

[Page 166](#) Deleting a RAID set Be cautious when deleting a RAID set. You will lose all data on the hard disk drives when you delete a RAID set. To delete a RAID set: From the utility main menu, select 2. Delete RAID Volume and press <Enter>. The following screen appears: [DELETE VOLUME MENU] Name...

[Page 167: Installing The Raid Driver During Windows ® Os Installation](#)

Before loading the RAID driver from a USB flash drive, you have to use another computer to copy the RAID driver from the support DVD to the USB flash drive. To set up a Windows UEFI operating system under RAID mode, ensure to load the UEFI ® driver for your optical drive. SABERTOOTH Z170 S...

[Page 168](#) Chapter 5: RAID Configurations...

[Page 169: Appendix](#)

Consult the dealer or an experienced radio/TV technician for help. The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. SABERTOOTH Z170 S...

[Page 170: Canadian Department Of Communications Statement](#)

IC: Canadian Compliance Statement Complies with the Canadian ICES-003 Class B specifications. This device complies with RSS 210 of Industry Canada. This Class B device meets all the requirements of the Canadian interference-causing equipment regulations. This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

[Page 171](#) ASUS Recycling/Takeback Services ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials.

[Page 172](#) Slovenščina AsusTek Inc. tukaj izjavlja, da je ta naprava skladna s di conformità CE. temeljnimi zahtevami in drugimi relevantnimi določili direktiv CE. Za več Компания ASUS заявляет, что это устройство соответствует основным информаций glejte Izjavo CE o skladnosti. требованиям и другим соответствующим условиям европейских...

[Page 173: Asus Contact Information](#)

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[Page 174](#) Appendix...