



Asus PRIME H510M-A R2.0 Manual

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Summary of Contents for Asus PRIME H510M-A R2.0

[Page 1](#) PRIME H510M-A R2.0...

[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.

[Page 3: Table Of Contents](#)

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Processing Unit (CPU)1-9 System memory

[Page 4: 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 5: About This Guide](#)

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

[Page 6: Package Contents](#)

Supports Intel Turbo Boost Technology 2.0 and Intel Turbo Boost Max [®] [®] Technology 3.0** * Refer to www.asus.com for CPU support list. ** Intel Turbo Boost Max Technology 3.0 support depends on the CPU types. [®] Chipset Intel H470 Chipset [®]...

[Page 7](#) PRIME H510M-A R2.0 specifications summary Total supports 1 x M.2 slot and 4 x SATA 6Gb/s ports Intel H470 Chipset [®] Storage M.2 slot (Key M), type 2242/2260/2280 (supports PCIe 3.0 x4 & SATA modes) 4 x SATA 6Gb/s ports...

[Page 8](#) PRIME H510M-A R2.0 specifications summary 1 x USB 3.2 Gen 1 (5G) header supports 2 additional USB 3.2 Gen 1 ports 2 x USB 2.0 headers support 4 additional USB 2.0 ports 1 x USB 2.0 header supports 1 additional USB 2.0 port...

[Page 9](#) Form Factor 8.9 inch x 8.3 inch (22.6 cm x 21.1 cm) • Specifications are subject to change without notice. Please refer to the ASUS website for the latest specifications. • For more information on downloading and installing drivers and utilities for your...

[Page 11: Chapter 1: Product Introduction](#)

• The pin definitions in this chapter are for reference only. The pin names depend on the location of the header/jumper/connector. • For more information on installing your motherboard, please scan the code below: PRIME H510M-A R2.0...

[Page 12: Motherboard Overview](#)

Motherboard overview 21.1cm(8.3in) RGB_HEADER2 KBMS CPU_FAN ATX_12V DIGI +VRM HDMI CHA_FAN2 USB_78 LGA1200 U32G1_34 LAN_U32G1_12 AUDIO_2280 2260 2242 PCIEX16 Ethernet PCIEX1_1 Super Intel [®] Audio Codec H470 128Mb PCIEX1_2 BIOS COM_DEBUG USB_910 USB_1112 RGB_HEADER1 SATA6G_4 SPDIF_OUT USB_14 CLRTC AAFP F_PANEL Unplug the power cord before installing or removing the motherboard.

[Page 13](#) USB 2.0 ports. The USB 2.0 headers provide data transfer speeds of up to 480 Mb/s. DO NOT connect a 1394 cable to the USB connectors. Doing so will damage the motherboard! The USB 2.0 module is purchased separately. PRIME H510M-A R2.0...

[Page 14](#) 10. Addressable Gen 2 headers ADD_GEN 2 The Addressable Gen 2 headers allow you to connect individually addressable PIN 1 RGB WS2812B LED strips or WS2812B based LED strips. The Addressable Gen 2 headers support WS2812B addressable RGB LED strips (5V/Data/Ground), with a maximum power rating of 3A (5V), and the addressable headers on this board can handle a combined maximum of 500 LEDs.

[Page 15](#) TPM_DETECT_L F_SPI_PWR data. A TPM system also helps enhance network security, F_SPI_CZS0#_R T_SPI_CLK T_SPI_MISO T_SPI_MOSI protects digital identities, and ensures platform integrity. F_SPI_HOLD#_R The TPM module is purchased separately. PRIME H510M-A R2.0...

[Page 16](#) 18. 10-1 pin System Panel header + PWR_LED - PWR_BTN This header supports several chassis-mounted functions. • System Power LED header (+PWR_LED-) The 2-pin header allows you to connect the System Power LED. F_PANEL The System Power LED lights up when

the system is connected PIN 1 to a power source, or when you turn on the system power, and blinks when the system is in sleep mode.

[Page 17](#) DisplayPort. This port is for a DisplayPort-compatible device. USB 2.0 ports. These Universal Serial Bus (USB) ports are for USB 2.0 devices. USB 3.2 Gen 1 (up to 5Gbps) ports. These Universal Serial Bus (USB) ports connect to USB 3.2 Gen 1 devices. PRIME H510M-A R2.0...

[Page 18](#) Microphone port (pink). This port connects a microphone. Refer to the audio configuration table for the function of the audio ports in 2, 4, 5.1, or 7.1-channel configuration. Audio 2, 4, 5.1 or 7.1-channel configuration Port 2-channel 4-channel 5.1-channel 7.1-channel Light Blue Rear Speaker Rear Speaker...

[Page 19: Central Processing Unit \(Cpu\)](#)

PnP cap/socket contacts/motherboard components. • Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA1200 socket.

[Page 20: System Memory](#)

Supported memory types, data rate (speed), and number of DRAM modules vary depending on the CPU and memory configuration, for more information please refer to CPU/Memory Support list under the Support tab of product information site or visit <https://www.asus.com/support/>. Recommended memory configurations DIMM_A...

[Page 21](#) Installing a DIMM To remove a DIMM PRIME H510M-A R2.0 1-11...

[Page 22: M.2 Installation](#)

M.2 installation OPTIONAL • Ensure to install the bundled M.2 rubber pad before installing your single sided M.2 storage device. • DO NOT install the bundled M.2 rubber pads when installing a double-sided M.2 storage device. The rubber pad installed by default is compatible with double sided M.2 storage devices.

[Page 23: Chapter 2: Bios Information](#)

BIOS Information 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 24: Bios Setup Program](#)

BIOS Setup program Use the BIOS Setup to update the BIOS or configure its parameters. The BIOS screens 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> or <F2> during the Power-On Self Test (POST).

[Page 25: Asus Ez Flash 3](#)

ASUS EZ Flash 3 The ASUS EZ Flash 3 feature allows you to update the BIOS without using an OS-based utility. Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu or press hotkey <F5>.

[Page 26: Asus Crashfree Bios 3](#)

ASUS CrashFree BIOS 3 The ASUS CrashFree BIOS 3 utility 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 restore a corrupted BIOS file using a USB flash drive that contains the BIOS file.

[Page 27: Appendix](#)

Appendix Notices FCC Compliance Information Responsible Party: Asus Computer International Address: 48720 Kato Rd., Fremont, CA 94538, USA Phone / Fax No: (510)739-3777 / (510)608-4555 This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired

operation.

[Page 28](#) Compliance Statement of Innovation, Science and Economic Development Canada (ISED) This device complies with Innovation, Science and Economic Development Canada licence 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 29](#) ASUS products sold in Vietnam, on or after September 23, 2011, meet the requirements of the Vietnam Circular 30/2011/TT-BCT. Các sản phẩm ASUS bán tại Việt Nam, vào ngày 23 tháng 9 năm 2011 trở về sau, đều phải đáp ứng các yêu cầu của Thông tư 30/2011/TT-BCT của Việt Nam.

[Page 30](#) 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 31](#) Français AsusTek Computer Inc. déclare par la présente que cet appareil est conforme aux critères essentiels et autres clauses pertinentes des directives concernées. La déclaration de conformité de l'UE peut être téléchargée à partir du site Internet suivant : www.asus.com/support.

[Page 32: Warranty](#)

• ASUS offers a voluntary manufacturer's Commercial Guarantee. • ASUS dragovoljno nudi komercijalno proizvođačko jamstvo. • ASUS reserves the right to interpret the provisions of the ASUS • ASUS zadržava prava na tumačenje odredbi ASUS komercijalnog Commercial Guarantee. jamstva. •...

[Page 33](#) • ASUS tilbyr som produsent en frivillig kommersiell garanti. • Bảo hành thương mại này của ASUS được cung cấp độc lập và ngoài • ASUS forbeholder seg retten til å tolke bestemmelsene i ASUS sin Bảo đảm pháp lý theo luật định và không có cách nào ảnh hưởng đến kommersielle garanti.

[Page 34: Asus Contact Information](#)

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