Asus PRIME H310M2 R2.0 Manual

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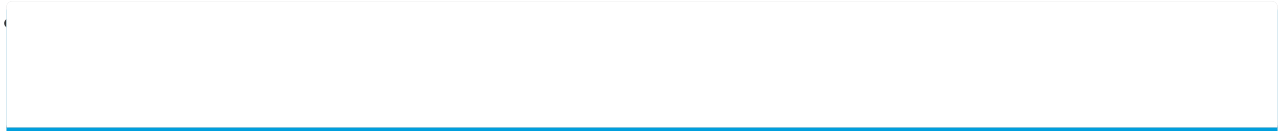26

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[Motherboard Asus PRIME H310M-A R1.0 Instruction Manual](#)

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Summary of Contents for Asus PRIME H310M2 R2.0

[Page 1](#) PRIME H310M2 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 of alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

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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 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 6: Package Contents

DDR4 1866 MHz. **** Refer to www.asus.com for the Memory QVL (Qualified Vendors List). 1 x PCI Express 3.0/2.0 x16 slot (at x16 mode) Expansion 1 x PCI Express 2.0 x16 slot (max.

Page 7 ASUS 5X PROTECTION III - ASUS SafeSlot Core - Fortified PCIe Slot prevents damage - ASUS LANGuard - Protects against LAN surges, lightning strikes and static - electricity discharges - ASUS Overvoltage Protection - World-class circuit-protecting power design - ASUS Stainless Steel Back I/O - 3x corrosion-resistance for greater durability...

Page 8 TPM 2.0 IC on board 128 Mb Flash ROM, UEFI AMI BIOS, PnP, SM BIOS 3.1, ACPI 6.1, Multi- language BIOS, ASUS EZ Flash 3, CrashFree BIOS 3, F6 Qfan Control, F3 My BIOS features Favorites, Last Modified log, F12 PrintScreen, and ASUS DRAM SPD (Serial...

Page 9: Motherboard Overview

CHA_FAN LAN_U31G1_34 Realtek ® AUDIO 8111H PCIEX16_1 PRIME H310M2 R2.0 PCI1 Super Intel ® 1083 H310 PCI2 128Mb BIOS PCIEX16_2 CLRTC SPEAKER USBE12 USBE34 USB78 SATA6G_4 SATA6G_3 COM2 AAFP F_PANEL Scan the QR code to get the detailed pin definitions. ASUS PRIME H310M2 R2.0...

Page 10 ATX power connectors (24-pin EATXPWR, 8-pin ATX12V) Correctly orient the ATX power supply plugs into these connectors and push down firmly until the connectors completely fit. • For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12V Specification 2.0 (or later version) and provides a minimum power of 350 W. Ensure this PSU type has 24-pin and 8-pin power plugs. • We recommend that you use a PSU with higher power output when configuring a system with more power-consuming devices or when you intend to install additional devices. The system may become unstable or may not boot up if the power is inadequate. • DO NOT forget to connect the 8-pin ATX +12V power plug. Otherwise,the system will not boot up. CPU and chassis fan connectors (4-pin CPU_FAN, 4-pin CHA_FAN) 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! The CPU_FAN connector supports a CPU fan of maximum 1A (12W) fan power. Intel LGA1151 CPU socket ®...

Page 11 USB 2.0 connectors (10-1 pin USBE12, USBE34, USB78) Connect a USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specifications and support up to 480Mbps connection speed. USB 3.1 Gen 1 (up to 5Gb/s) connector (20-1 pin U31G1_12) Connect a USB 3.1 Gen 1 module to this connector for additional USB 3.1 Gen 1 front or rear panel ports. This connector complies with USB 3.1 Gen 1 specifications and provides faster data transfer speeds of up to 5 Gbps, faster charging time for USB-chargeable devices, optimized power efficiency, and backward compatibility with USB 2.0. Chassis intrusion header (4-1 pin CHASSIS) This header is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. LPT connector (26-1 pin LPT) The LPT (Line Printing Terminal) connector supports devices such as a printer. LPT standardizes as IEEE 1284, which is the parallel port interface on IBM PC- compatible computers. ASUS PRIME H310M2 R2.0...

Page 12 Serial port connector (10-1 pin COM2) Connect the serial port module cable to this

connector, then install the module to a slot opening at the back of the system chassis. Digital audio connector (4-1 pin SPDIF_OUT) 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. PIN 1 SPDIF_OUT Front panel audio connector (10-1 pin AAFP) This connector is for a chassis-mounted front panel audio I/O module that supports the HD audio standard. Connect one end of the front panel audio I/O module cable to this connector. • We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability. • If you want to connect a high-definition front panel audio module to this connector, set the Front Panel Type item in the BIOS setup to [HD Audio]. PCI Express 2.0 x16 slot This motherboard has a PCI Express 2.0 x16 slot that supports PCI Express x1 network cards, SCSI cards, and other cards that comply with the PCI Express specifications.

Description No link 10Mbps connection Orange Linked ORANGE 100Mbps connection Orange Data activity GREEN 1Gbps connection (Blinking) LAN port Orange Ready to wake (Blinking then up from S5 mode steady) Line In port (light blue). This port connects to the tape, CD, DVD player, or other audio sources. Line Out port (lime). This port connects to a headphone or a speaker. In the 4.1, 5.1and 7.1-channel configurations, the function of this port becomes Front Speaker Out. Microphone port (pink). This port connects to a microphone. Refer to the audio configuration table for the function of the audio ports in 2.1, 4.1, 5.1, or 7.1-channel configuration. ASUS PRIME H310M2 R2.0...

Audio 2.1, 4.1, 5.1 or 7.1-channel configuration Headset Port 4.1-channel 5.1-channel 7.1-channel 2.1-channel Light Blue (Rear Rear Speaker Rear Speaker Line In Rear Speaker Out panel) Front Speaker Front Speaker Lime (Rear panel) Line Out Front Speaker Out Pink (Rear panel) Mic In Mic In Bass/Center Bass/Center Side Speaker Lime (Front panel) To configure a 7.1-channel audio output: Use a chassis with HD audio module in the front panel to support a 7.1-channel audio output. USB 3.1 Gen 1 (up to 5Gb/s) ports. These two 9-pin Universal Serial Bus (USB) ports are for USB 3.1 Gen 1 devices.

Page 15: Central Processing Unit (Cpu)

Central Processing Unit (CPU) This motherboard comes with a surface mount LGA1151 socket designed for the 8th Generation Intel Core™ i7 / Core™ i5 / Core™ i3, ® Pentium , and Celeron processors. ® ® Unplug all power cables before installing the CPU. • Ensure that you install the correct CPU designed for the LGA1151 socket only. DO NOT install a CPU designed for LGA1150, LGA1155 and LGA1156 sockets on the LGA1151 socket. • Upon purchase of the motherboard, ensure that the PnP cap is on the socket and the socket contacts are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket contacts/motherboard components. • 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 LGA1151 socket. • The product warranty does not cover damage to the socket contacts resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap. Installing the CPU Apply the Thermal Interface Material to the CPU heatsink and CPU before you install the heatsink and fan if necessary. ASUS PRIME H310M2 R2.0...

Page 16: System Memory

• Always install DIMMs with the same CAS latency. For optimal compatibility, we recommend that you install memory modules of the same version or date code (D/C) from the same vendor. Check with the retailer to get the correct memory modules. • DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel 8th ® Generation 6-core or higher processors. • Memory modules with memory frequency higher than 2133 MHz and its corresponding timing or the loaded X.M.P. Profile is not the JEDEC memory standard. The stability and compatibility of these memory modules depend on the CPU's capabilities and other installed devices. • The default memory operation frequency is dependent on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value. • For system stability, use a more efficient memory cooling system to support a full memory load (4 DIMMs). • Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List). Recommended memory configuration • If you want to use one/two single-sided/double-sided memory module(s), install them into the grey DIMM sockets (DIMM_A2, DIMM_B2). • Due to Intel chipset limitations, this motherboard can only support single-sided ® memory modules when four modules are installed and they will run at the maximum transfer rate of DDR4 1866Mhz Chapter 1: Product introduction...

DIMM_A1 DIMM_A2* DIMM_A2* DIMM_B1 DIMM_B2* DIMM_B2* DIMM_B2* Installing a DIMM To remove a DIMM ASUS PRIME H310M2 R2.0...

To enter BIOS Setup after POST: Press <Ctrl>+<Alt>+<Del> simultaneously. Press the reset button on the system chassis. Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options. Using the power button, reset button, or the <Ctrl>+<Alt>+<Del> keys to force reset from a running operating system can cause damage to your data or system. We recommend you always shut down the system properly from the operating system. • 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 at www.asus.com to download the latest BIOS file for this motherboard. • If the system becomes unstable after changing any BIOS setting, load the default settings to ensure system compatibility and stability. Select the Load Optimized Defaults item under the Exit menu or press hotkey F5. • If the system fails to boot after changing any BIOS setting, try to clear the CMOS and reset the motherboard to the default value. See section Motherboard overview for information on how to erase the RTC RAM. BIOS menu screen The BIOS setup program can be used under two modes: EZ Mode and Advanced Mode. Press <F7> to change between the two modes. ASUS PRIME H310M2 R2.0...

EZ Mode By default, the EZ Mode screen appears when you enter the BIOS setup program. The EZ Mode provides you an overview of the basic system information, and allows you to select the display language, system performance mode, fan profile and boot device priority. To access the Advanced Mode, click Advanced Mode(F7) or press <F7>. The default screen for entering the BIOS setup program can be changed. Go to the Setup Mode item under the Boot menu. Displays the CPU/motherboard temperature, CPU voltage output, Displays the system CPU/chassis fan speed, and SATA properties of the information selected mode. Click Selects the display <Enter> to switch EZ language of the BIOS System Tuning modes setup program Goes to...

To access the EZ Mode, click EzMode(F7) or press <F7>. Q-Fan control Menu bar MyFavorite Language Hot Keys Pop-up window Returns to Sub-menu items EZ Mode Scroll bar Search on FAQs General help Menu items Configuration Last modified settings fields Displays hardware monitoring data ASUS PRIME H310M2 R2.0...

Search on FAQ Move your mouse over this button to show a QR code. Scan this QR code with your mobile device to connect to the ASUS BIOS FAQ web page. You can also scan the QR code below. 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. Load Optimized Defaults This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select OK to load the default values. Save Changes & Reset Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved. When you select this option or if you press <F10>, a confirmation window appears. Select OK to save changes and exit. Discard Changes & Exit This option allows you to exit the Setup program without saving your changes. When you select this option or if you press <Esc>, a confirmation window appears. Select OK to discard changes and exit. Launch EFI Shell from USB drives This option allows you to attempt to launch the EFI Shell application (shellx64.efi) from one of the available USB devices. Chapter 2: BIOS information...

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.

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.

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.

доступний на: www.asus.com/support Cijeli tekst EU izjave o sukladnosti dostupan je na: www.asus.com/support Türkçe AsusTek Computer Inc., bu aygıtın temel gereksinimlerle ve ilişkili Čeština Společnost ASUSTeK Computer Inc. tímto prohlašuje, že toto Yönergelerin diğer ilgili koşullarıyla uyumlu olduğunu beyan eder.

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