



# Asus PRIME Z690M-PLUS D4 Manual



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## Related Manuals for Asus PRIME Z690M-PLUS D4

[Motherboard Asus PRIME Z690-P WIFI D4 User Manual](#)

(70 pages)

[Motherboard Asus Prime Z690-P Quick Start Manual](#)

(2 pages)

[Motherboard Asus PRIME Z690-P Quick Start Manual](#)

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[Motherboard Asus PRIME Z690-P WIFI D4 Quick Start Manual](#)

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[Motherboard Asus ROG MAXIMUS Z690 FORMULA Manual](#)

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[Motherboard Asus ROG STRIX Z690-A GAMING WIFI Manual](#)

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[Motherboard Asus ROG STRIX Z690-G GAMING WIFI Manual](#)

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

(130 pages)

[Motherboard Asus Z170-P Manual](#)

(86 pages)

[Motherboard Asus Z170-Premium series Manual](#)

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[Motherboard Asus ROG STRIX Z390-E GAMING Manual](#)

(100 pages)

[Motherboard Asus PRIME Z390-P Manual](#)

(89 pages)

[Motherboard Asus STRIX Z270G GAMING Manual](#)

(106 pages)

## Summary of Contents for Asus PRIME Z690M-PLUS D4

[Page 1](#) PRIME Z690M- PLUS D4...

[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](#)

Contents Safety information ..... iv About this guide .....v PRIME Z690M-PLUS D4 specifications summary ..... vi Package contents .....x Installation tools and components .....xi Chapter 1: Product Introduction Before you proceed .....

1-1 Motherboard layout .....1-2...

## [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: Prime Z690M-Plus D4 Specifications Summary](#)

Supports Intel Extreme Memory Profile (XMP) OptiMem II \* Actual Memory frequency support depends on the CPU types and DRAM modules, for more information refer to www.asus.com for the Memory QVL (Qualified Vendors Lists). 1 x DisplayPort\*\* ® 1 x HDMI port\*\*\* \* Graphics specifications may vary between CPU types.

[Page 7](#) PRIME Z690M-PLUS D4 specifications summary Rear USB (Total 8 ports) ® 1 x USB 3.2 Gen 2x2 port (1 x USB Type-C 1 x USB 3.2 Gen 2 port (1 x Type-A) 4 x USB 3.2 Gen 1 ports (4 x Type-A) 2 x USB 2.0 ports (2 x Type-A)

[Page 8](#) PRIME Z690M-PLUS D4 specifications summary Miscellaneous 3 x Addressable Gen 2 headers 1 x AURA RGB header 1 x Clear CMOS header 1 x COM Port header Internal I/O Connectors 1 x Front Panel Audio header (AAFP) 1 x M.2 slot (Key E)

[Page 9](#) 11 64-bit Operating System ® Windows 10 64-bit mATX Form Factor Form Factor 9.6 inch x 9.6 inch (24.4 cm x 24.4 cm) Specifications are subject to change without notice. Please refer to the ASUS website for the latest specifications.

## [Page 10: Package Contents](#)

Package contents Check your motherboard package for the following items. Motherboard 1 x PRIME Z690M-PLUS D4 motherboard Cables 2 x SATA 6Gb/s cables 1 x I/O Shield 2 x M.2 screw packages Miscellaneous \* The package including 2 screws and 1 nut is for installing an M.2 WIFI module into the M.2 WIFI slot and an M.2 SSD module into the M.2\_2 slot.

## [Page 11: Installation Tools And Components](#)

Installation tools and components Phillips (cross) screwdriver PC chassis Power supply unit Intel ® LGA 1700 CPU Intel ® LGA 1700 compatible CPU Fan DDR4 DIMM SATA hard disk drive SATA optical disc drive (optional) Graphics card (optional) M.2 SSD module (optional) 2 Bags of screws The tools and components in the table above are not included in the motherboard package.

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

Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components. PRIME Z690M-PLUS D4...

## [Page 14: Motherboard Layout](#)

Motherboard layout 24.4cm(9.6in) ADD\_GEN 2\_2 USB\_1112 CPU\_FAN AIO\_PUMP ADD\_GEN 2\_3 CPU\_OPT ATX\_12V\_2 ATX\_12V\_1 DIGI+ HDMI 1442K U32G2\_9 U32G2X2\_C1 U32G1\_56 LGA1700 LAN\_U32G1\_34 BATTERY AUDIO 2280 2260 2242 CHA\_FAN1 PCIEX16(G5) 2230 PCIEX1(G3)\_1 2280 Ethernet 2260 Super ® Intel Z690 PCIEX1(G3)\_2 COM\_DEBUG 2280 2260 2242 128Mb...

[Page 15](#) 14. COM Port header 1-17 15. Front Panel Audio header 1-17 16. M.2 slot (Key E) 1-18 17. S/PDIF Out header 1-18 18. SPI TPM header (14-1pin) 1-19 19. System Panel header 1-20 20. Thunderbolt header 1-21 ™ PRIME Z690M-PLUS D4...

[Page 16](#) 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 17](#) A DDR4 memory 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 DIMM\_A1 DIMM\_A2 DIMM\_A2 DIMM\_A2 DIMM\_B1 DIMM\_B2 DIMM\_B2 PRIME Z690M-PLUS D4...

[Page 18](#) (D/C) from the same vendor. Check with the vendor to get the correct memory modules. • Visit the ASUS website for the latest QVL. Chapter 1: Product Introduction...

[Page 19](#) Please refer to the following tables for the recommended VGA configuration. Recommended VGA configuration Slot Slot Description Single VGA Dual VGA PCIEX16(G5) PCIEX16(G4) Connect a chassis fan to the chassis fan connectors when using multiple graphics cards for better thermal environment. PRIME Z690M-PLUS D4...

[Page 20](#) Fan and Pump headers The Fan and Pump headers allow you to connect fans or pumps to cool the system. CPU\_FAN CHA\_FAN3 CPU\_OPT FAN PWM FAN IN A B C AIO\_PUMP FAN PWR CHA\_FAN1 FAN PWR FAN IN FAN PWM CHA\_FAN2 •...

[Page 21](#) The system may become unstable or may not boot up if the power is inadequate. • If you want to use two or more high-end PCI Express x16 cards, use a PSU with 1000W power or above to ensure the system stability. PRIME Z690M-PLUS D4...

[Page 22](#) M.2 slots The M.2 slots allow you to install M.2 devices such as M.2 SSD modules. M.2\_1(SOCKET3) M.2\_2(SOCKET3) M.2\_3(SOCKET3) • Intel® Gen processors: - M.2\_1 supports PCIe 4.0 x4 mode M Key design and type 2242/2260/2280 PCIe storage devices. Intel®...

[Page 23](#) Intel® Rapid Storage Technology through the onboard Intel® Z690 chipset. Before creating a RAID set, refer to the RAID Configuration Guide. You can download the RAID Configuration Guide from the ASUS website. PRIME Z690M-PLUS D4 1-11...

[Page 24](#) USB 3.2 Gen 1 Type-C® Front Panel connector® The USB 3.2 Gen 1 Type-C connector allows you to connect a USB 3.2 Gen 1®® Type-C module for an additional USB 3.2 Gen 1 Type-C port. The USB 3.2 Gen 1®...

[Page 25](#) DO NOT connect a 1394 cable to the USB connectors. Doing so will damage the motherboard! • The USB 2.0 module is purchased separately. • USB\_E1 port, USB\_E2 port, USB\_E3 port and USB\_E4 port share the bandwidth. PRIME Z690M-PLUS D4 1-13...

[Page 26](#) Addressable Gen 2 headers The Addressable Gen 2 headers allow you to connect individually addressable RGB WS2812B LED strips or WS2812B based LED strips. ADD\_GEN 2\_2 ADD\_GEN 2\_3 ADD\_GEN 2\_1 PIN 1 The Addressable Gen 2 header supports 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 27](#) RGB LED strip is connected in the correct orientation, and the 12V connector is aligned with the 12V header on the motherboard. • The LED strip will only light up when the system is powered on. • The LED strip is purchased separately. PRIME Z690M-PLUS D4 1-15...

[Page 28](#) Clear CMOS header This header 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 include system setup information such as system passwords.

[Page 29](#) HD Audio. Connect one end of the front panel audio I/O module cable to this header. AAFP 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. PRIME Z690M-PLUS D4 1-17...

[Page 30](#) M.2 slot (Key E) The M.2(WIFI) slot allows you to install an M.2 Wi-Fi module (E-key, type 2230). M.2(WIFI) S\_USB\_PP14\_BT\_R S\_USB\_PN14\_BT\_R WLAN\_LED1 CNV\_WR\_R\_1\_DN M.2\_CRF\_RST# CNV\_WR\_R\_1\_DP M.2\_WIFI\_CLKREQ CNV\_WR\_R\_0\_DN WLAN\_LED2 PIN 1 CNV\_WR\_R\_0\_DP CNV\_WR\_R\_CLK\_DN CNV\_BRI\_RSP\_R CNV\_WR\_R\_CLK\_DP CNV\_RGI\_DT\_R

CNV\_RGI\_RSP\_R S\_X1\_WIFI\_TXP CNV\_BRI\_DT\_R S\_X1\_WIFI\_TXN S\_X1\_WIFI\_RXP S\_X1\_WIFI\_RXN  
CNV\_GNSS\_PA\_BLANKING\_R CNV\_MFUART2\_TXD\_R...

[Page 31](#) A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity. PIN 1 VCCSPI S\_SPI\_TPM\_IRQ# S\_PLTRST# S\_SPI\_TPM\_CS2# F2\_SPI\_CS1#\_R F\_BIOS\_WP#\_R +3V\_SPI F\_SPI\_CS0#\_R T\_SPI\_CLK T\_SPI\_MISO T\_SPI\_MOSI F\_SPI\_HOLD#\_R The TPM module is purchased separately. PRIME Z690M-PLUS D4 1-19...

[Page 32](#) System Panel header The System Panel header supports several chassis-mounted functions. PLED PWRSW SPEAKER CHASSIS PANEL PIN 1 HDD\_LED RESET PLED • System Power LED header (PLED) The 2-pin header allows you to connect the System Power LED. The System Power LED lights up when the system is connected to a power source, or when you turn on the system power, and blinks when the system is in sleep mode.

[Page 33](#) Thunderbolt™-enabled devices and DisplayPort-enabled devices to form a daisy chain-configuration. TB\_HEADER PIN 1 • The add-on Thunderbolt™ I/O card and Thunderbolt™ cables are purchased separately. • Please visit the official website of your purchased Thunderbolt™ card for more details on compatibility. PRIME Z690M-PLUS D4 1-21...

[Page 34](#) 1-22 Chapter 1: Product Introduction...

### [Page 35: Building Your Pc System](#)

CPU designed for LGA1155, LGA1156, LGA1151, and LGA1200 sockets on the LGA1700 socket. • ASUS will not cover damages resulting from incorrect CPU installation/removal, incorrect CPU orientation/placement, or other damages resulting from negligence by the user. Take caution when lifting the load...

[Page 36](#) Chapter 2: Basic Installation...

### [Page 37: Cooling System Installation](#)

2.1.2 Cooling system installation Apply Thermal Interface Material to the CPU cooling system and CPU before you install the cooling system, if necessary. To install a CPU heatsink and fan assembly PRIME Z690M-PLUS D4...

[Page 38](#) ASUS motherboard. • Push-pin type LGA1200 compatible cooling systems cannot be installed to this motherboard.

[Page 39](#) • If you wish to install an AIO cooler, we recommend installing the AIO cooler after installing the motherboard into the chassis. AIO\_PUMP CPU\_FAN CPU\_OPT PRIME Z690M-PLUS D4...

### [Page 40: Dimm Installation](#)

2.1.3 DIMM installation To remove a DIMM Chapter 2: Basic Installation...

### [Page 41: M.2 Installation](#)

2.1.4 M.2 installation To install an M.2 WIFI card PRIME Z690M-PLUS D4...

[Page 42](#) To install an M.2 SSD card Supported M.2 type varies per motherboard. • The M.2 modules are purchased separately. • Use the screw and nut in the bundled 2-screw & 1-nut package when installing an M.2 SSD module into the M.2\_2 socket. Chapter 2: Basic Installation...

### [Page 43: Motherboard Installation](#)

2.1.5 Motherboard installation Install the ASUS I/O Shield to the chassis rear I/O panel. Some sharp edges and points might cause physical injury. We recommend you put on cut or puncture resistant gloves before motherboard and I/O shield installation. Place the motherboard into the chassis, ensuring that its rear I/O ports are aligned to the chassis'...

[Page 44](#) Place eight (8) screws into the holes indicated by circles to secure the motherboard to the chassis. DO NOT over tighten the screws! Doing so can damage the motherboard. 2-10

### [Page 45: Atx Power Connection](#)

2.1.6 ATX power connection Ensure to connect the 8-pin power plug. PRIME Z690M-PLUS D4 2-11...

### [Page 46: Sata Device Connection](#)

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

### [Page 47: Front I/O Connector](#)

This connector will only fit in one orientation. Push the connector until it clicks into place. To install USB 2.0 connector To install USB 3.2 Gen 1 connector USB 2.0 USB 3.2 Gen 1 To install front panel audio connector AAFP PRIME Z690M-PLUS D4 2-13...

### [Page 48: Expansion Card Installation](#)

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

[Page 49](#) 9V devices when the 6-pin PCIe power connector is connected. • The Thunderbolt™ series card is sold separately. • Please visit the official website of your purchased Thunderbolt™ card for more details on compatibility. PRIME Z690M-PLUS D4 2-15...

### [Page 50: Motherboard Rear And Audio Connections](#)

Motherboard rear and audio connections 2.2.1 Rear I/O connection Rear panel connectors USB 2.0 ports 11 and 12 USB 3.2 Gen 2 Type-A port 9 Intel® I219-V 1Gb Ethernet port\*® HDMI port DisplayPort USB 3.2 Gen 2x2 port (Type-C®)...

### [Page 51: Audio I/O Connections](#)

\* Multi-streaming is disabled by default, and the Lime (front panel) jack may be used as Side Speaker Out. If multi-streaming is enabled, the Lime (front panel) jack will support headphone, and the Pink (front panel) jack will support Side Speaker Out. 2.2.2 Audio I/O connections Audio I/O ports Connect to Headphone and Mic PRIME Z690M-PLUS D4 2-17...

[Page 52](#) Connect to Stereo Speakers Connect to 2-channel Speakers Connect to 4-channel Speakers 2-18 Chapter 2: Basic Installation...

[Page 53](#) Connect to 5.1-channel Speakers Connect to 7.1-channel Speakers PRIME Z690M-PLUS D4 2-19...

### [Page 54: 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 55: Chapter 3: Bios And Raid Support](#)

BIOS and RAID Support 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 56: 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> or <F2> during the Power-On Self Test (POST).

### [Page 57: 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 58: 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 59: Raid Configurations](#)

For more information on configuring your RAID sets, please refer to the RAID Configuration Guide which you can find at <https://www.asus.com/support>, or by scanning the QR code. RAID definitions RAID 0 (Data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks.

### [Page 60](#) Chapter 3: BIOS and RAID Support...

### [Page 61: 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 62](#) 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 63](#) 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 64](#) 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 65](#) Yönergelerin diğer ilgili koşullarıyla uyumlu olduğunu beyan eder. AB s bitnim zahtjevima i ostalim odgovarajućim odredbama vezanih direktiva. uygunluk bildiriminin tam metni şu adreste bulunabilir: Cijeli tekst EU izjave o sukladnosti dostupan je na: [www.asus.com/support](http://www.asus.com/support) [www.asus.com/support](http://www.asus.com/support) Čeština Společnost ASUSTeK Computer Inc. tímto prohlašuje, že Bosanski ASUSTeK Computer Inc.

### [Page 66: Warranty](#)

ASUS offers a voluntary manufacturer's Commercial Guarantee. • ASUS zadržava prava na tumačenje odredbi ASUS komercijalnog • ASUS reserves the right to interpret the provisions of the ASUS Commercial Guarantee. jamstva. • This ASUS Commercial Guarantee is provided independently and •...

[Page 67](#) • 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 68: Asus Contact Information](#)

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EC3M 6BL,...