MAXSUN A520

MAXSUN A520M Motherboard User Manual

Model: A520M | Brand: MAXSUN

1. INTRODUCTION

This manual provides detailed instructions for the installation, configuration, and operation of your MAXSUN A520M M-ATX Motherboard. Please read this manual thoroughly before installing your motherboard to ensure correct setup and optimal performance. This motherboard is designed to support AMD Ryzen 1000-4000 series CPUs with an AM4 socket.

2. KEY FEATURES

- **AMD AM4 Socket:** Supports AMD 1st, 2nd, 3rd, and 4th generation Ryzen series CPUs.
- **Robust Power Design:** Features 4+2 Phases pure digital PWM with low RDS(on) MOSFETs for stable power delivery.
- **Enhanced Thermal Management:** Equipped with alloy thermal design radiators covering VRM and choke areas for improved heat dissipation.
- **High-Speed Connectivity:** Supports Dual Channel DDR4 Memory, M.2 NVMe SSD, 1Gb Ethernet, USB 3.1, HDMI/VGA (for APUs), and 5.1 HD Audio.
- **Durable Network Filter Module:** Utilizes durable materials to optimize network performance and reduce packet loss.

3. PRODUCT OVERVIEW

MAXSUN A520M

Figure 3.1: Top-down view of the MAXSUN A520M Motherboard, highlighting the CPU socket, RAM slots, and various connectors.

STABLE POWER SUPPLY
-6 Phases Power
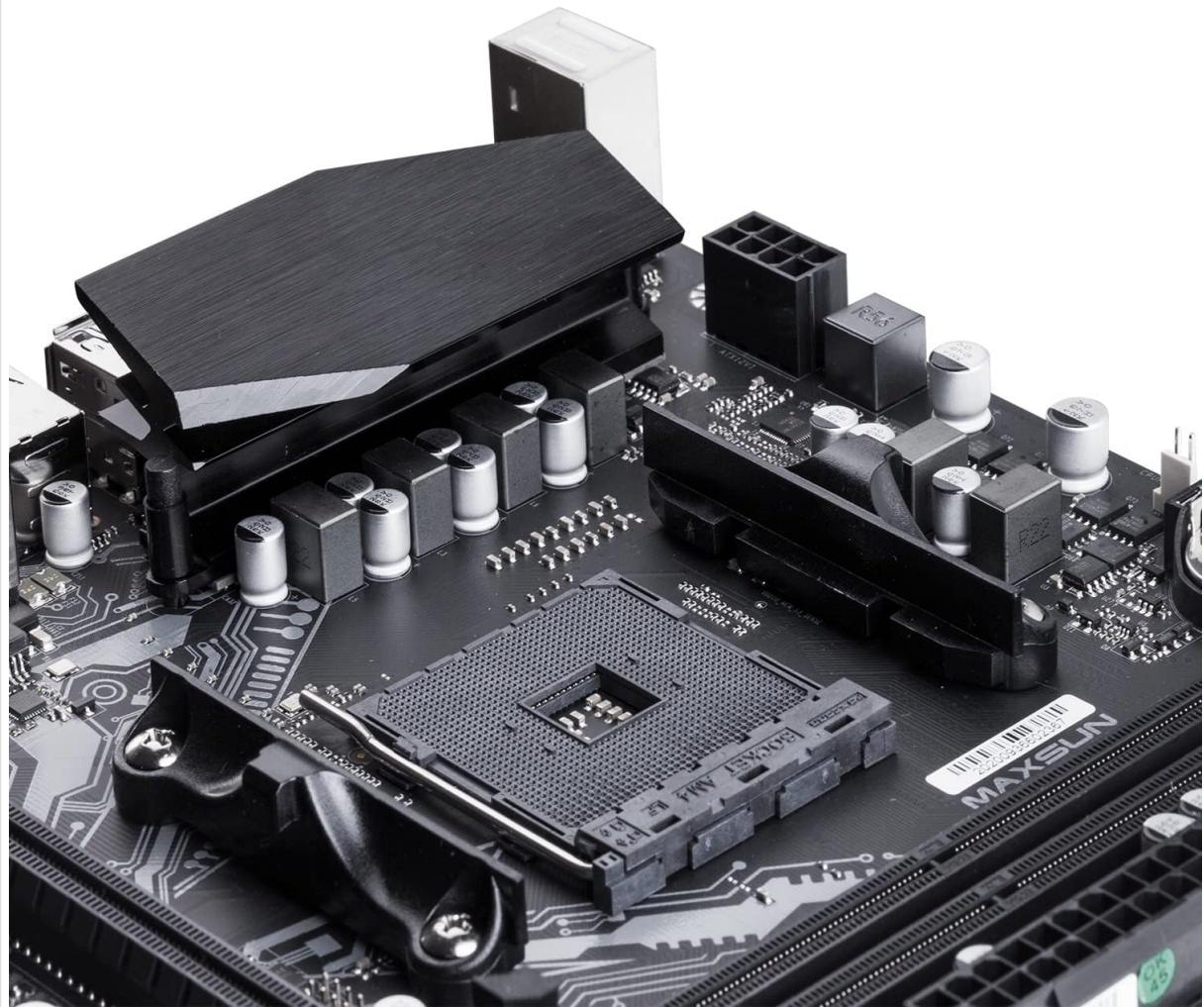
Figure 3.2: Close-up of the motherboard's power delivery system, featuring 6-phase power design for stable operation.

PCIE 3.0 SLOTS



PCIE3.0 x 1　　**PCIE3.0 x 16**
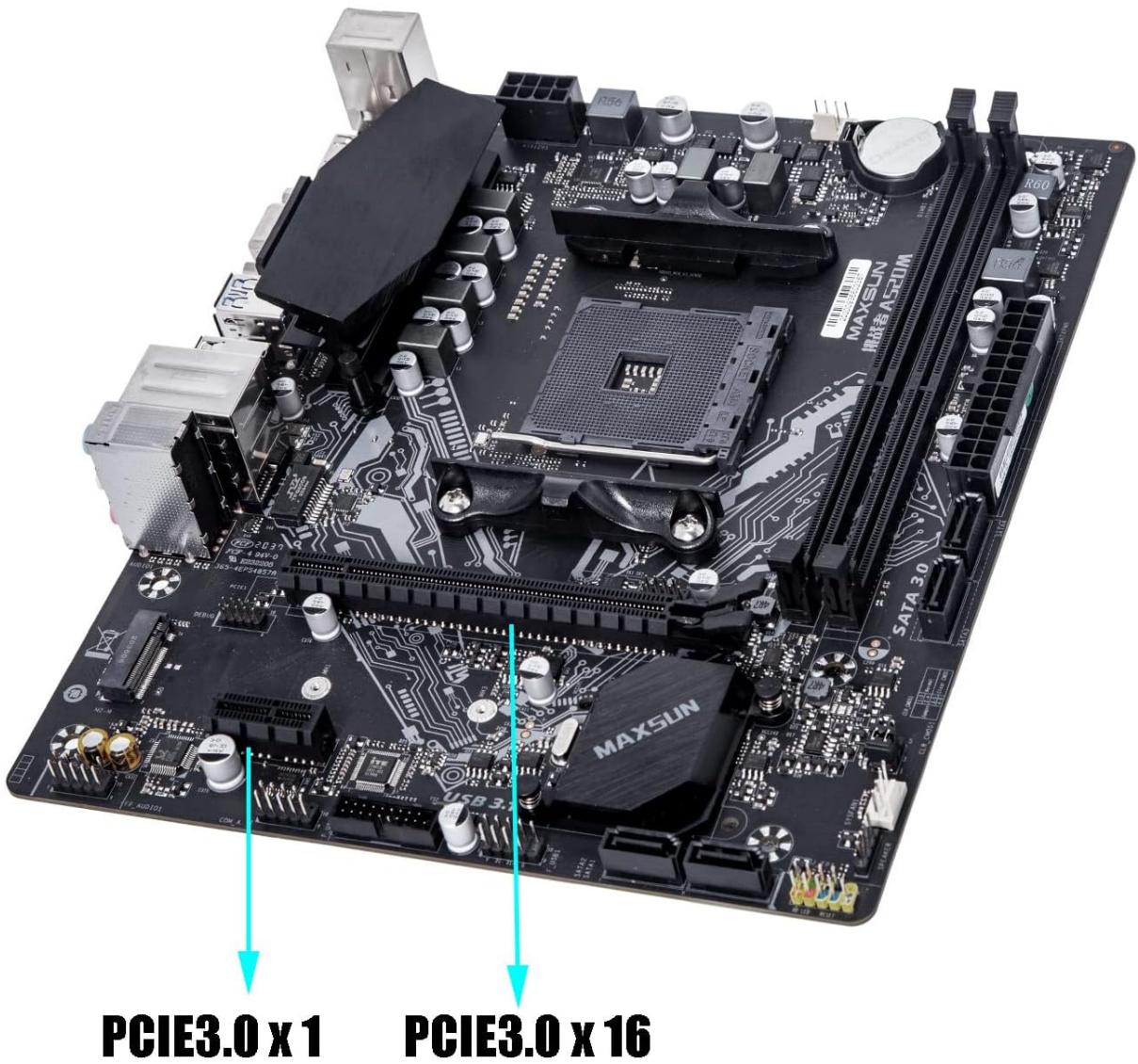
Figure 3.3: Illustration of the PCIe 3.0 slots, including one PCIe 3.0 x16 slot and one PCIe 3.0 x1 slot.

DUAL DDR4 & M.2

M.2 Slots-Full speed NVME

Compatible with SATA

Support DDR4, 2*DIMM

Support Overclocking
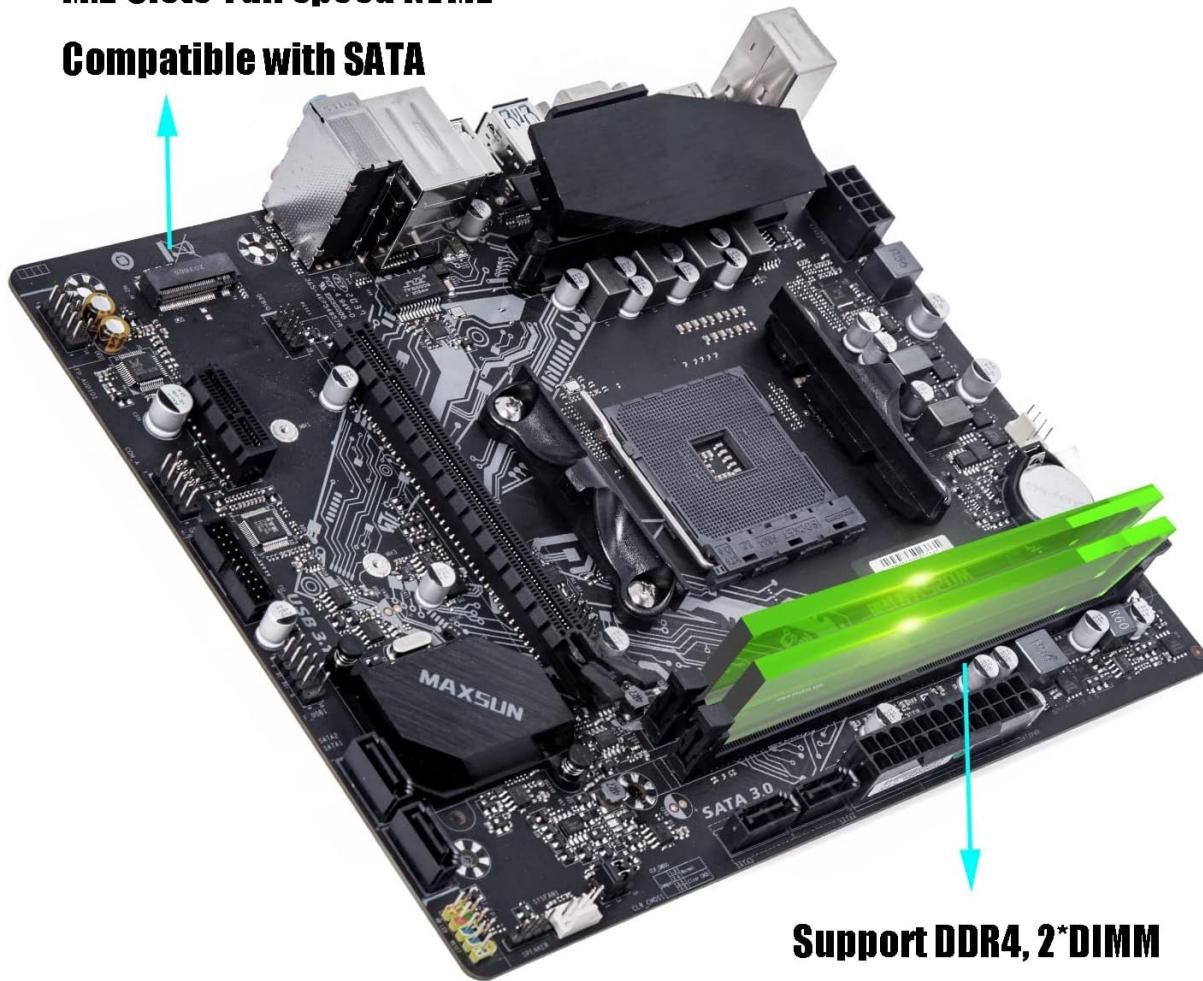
Figure 3.4: View of the dual DDR4 DIMM slots and the M.2 NVMe SSD slot, compatible with SATA.

STAINLESS-STEEL BACK I/O
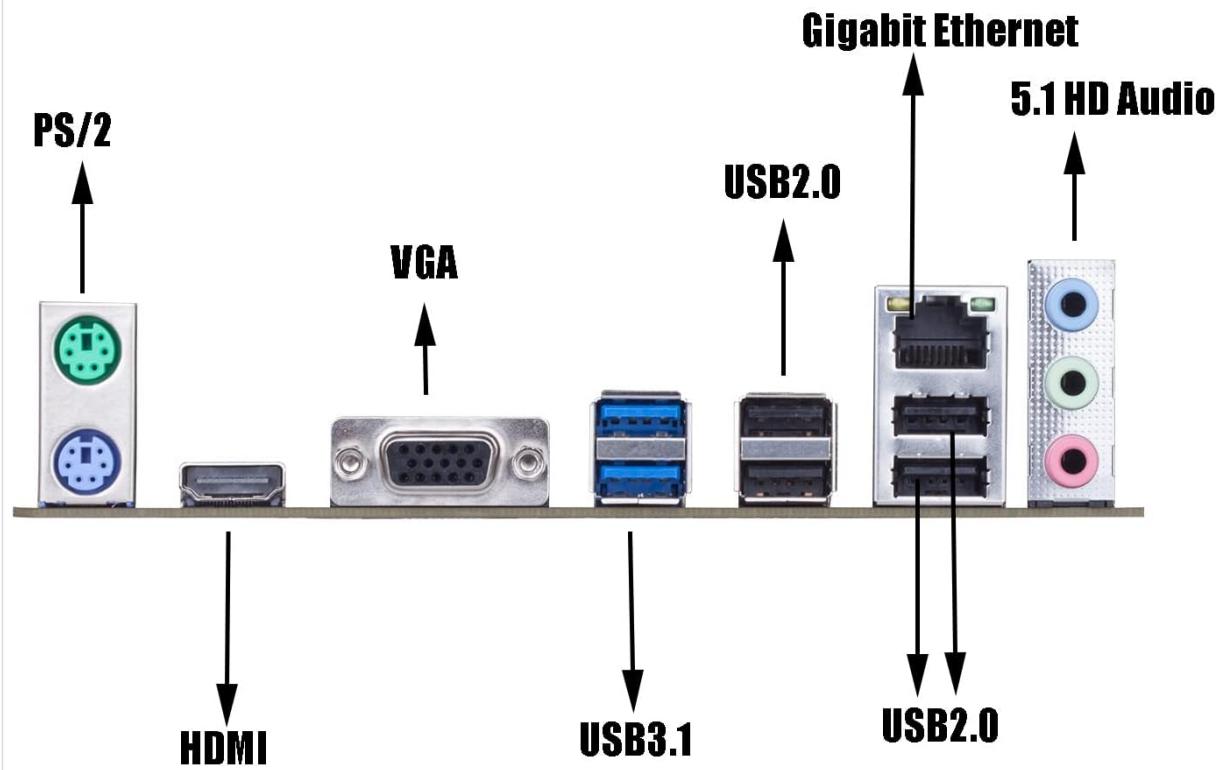
Figure 3.5: The stainless-steel rear I/O panel, showing ports for PS/2, HDMI, VGA, USB 3.1, USB 2.0, Gigabit Ethernet, and 5.1 HD Audio.

4. SPECIFICATIONS

Feature	Detail
Chipset / Socket	AMD A520 / AM4
Form Factor	M-ATX (225x190mm)
Power Design	4+2 Phases pure digital PWM + Low RDS(on) MOSFETs
CPU Core Boost	8-Pin power supply
Memory Support	Dual channel DDR4 2*DIMM; Max 3600MHz
PCIe Slot	1x PCIe 3.0 x4 M.2 SSD NVMe (2280), 1x PCIe 3.0 x16, 1x PCIe 3.0 x1
USB Ports	2x rear USB 3.1 Gen1 Type-A, 1x front USB 3.1 Gen1 pin socket, 1x front USB 2.0 pin socket, 4x rear USB 2.0 Type-A
Display Output	HDMI, VGA
Audio	5.1-Channel HD Audio Sound Card
LAN	1G LAN

Package Dimensions	9.92 x 9.41 x 2.24 inches
Item Weight	1.57 pounds
Batteries	1 CR2032 battery required
Compatible Processors	AMD 1st & 2nd generation Ryzen, Ryzen 3000, Ryzen 4000
Memory Clock Speed	3600 MHz
Platform	Windows 10

5. SETUP AND INSTALLATION

Proper installation is crucial for the stability and performance of your system. Always ensure your system is powered off and unplugged before handling internal components. Refer to the specific component manuals for detailed installation steps for your CPU, RAM, and storage devices.

5.1. BIOS Update Procedure

Keeping your BIOS updated ensures compatibility with the latest hardware and provides performance improvements. Follow these steps to update the BIOS for your MAXSUN motherboard:

Your browser does not support the video tag.

Video 5.1: This video demonstrates the process of updating the BIOS for MAXSUN motherboards. It covers preparing a FAT32 formatted USB drive, downloading the latest BIOS file from the MAXSUN support site, copying the extracted EFI folder to the USB drive, removing all hard drives (M.2 and SATA SSDs) before updating, inserting the USB drive, entering the BIOS interface by repeatedly pressing the 'Delete' key after power on, loading optimized defaults (F9 and Enter), disabling 'Flash Write Protect' under 'Startup' settings, saving and resetting (F10 and Enter), pressing 'F11' repeatedly to select the USB storage device boot option starting with UEFI, allowing the system to automatically execute the update program, pressing 'Y' to confirm flashing, and finally, pressing Ctrl+Alt+Delete to restart into the new BIOS after the update is complete.

1. **Prepare USB Storage:** Format a USB storage device to FAT32. Other boot disk types like PE or DOC cannot be used.

2. **Download BIOS:** Visit the official MAXSUN support site to download the latest BIOS file for your specific motherboard model. Unzip the downloaded file.

3. **Copy EFI Folder:** Copy the entire extracted EFI folder to the root directory of the prepared USB storage device.

4. **Remove Drives:** Before updating the BIOS, remove all hard drives, including M.2 and SATA SSDs, from the motherboard.

5. **Insert USB and Enter BIOS:** Insert your USB storage device into a USB port on the motherboard. Power on the system and repeatedly press the 'Delete' key to enter the BIOS interface.

6. **Load Optimized Defaults:** In the BIOS, press 'F9' and then 'Enter' to load optimized defaults.

7. **Disable Flash Write Protect:** Navigate to the 'Startup' section and ensure 'Flash Write Protect' is set to 'Disabled'.

8. **Save and Reset:** Press 'F10' and then 'Enter' to save the configuration and reset the system.

9. **Select Boot Device:** As the system restarts, repeatedly press the 'F11' key to access the boot device selection menu. Select the USB storage device boot option that starts with 'UEFI:'.

10. **Execute Update:** The system will automatically execute the program to update the BIOS. Follow any on-screen prompts. When prompted to flash, press 'Y'.

11. **Unplug USB:** Once the screen displays "FS0:\EFI\BOOT>" or "FPT Operation Successful", unplug your USB storage device. Otherwise, the system may repeat the update process.

12. **Restart to New BIOS:** Press 'Ctrl+Alt+Delete' simultaneously. The system will automatically restart and enter the NEW BIOS.

13. **Final Configuration:** In the new BIOS, press 'F9' and 'Enter' to load optimized defaults, then press 'F10' and 'Enter' to save and reset.

6. OPERATING INSTRUCTIONS

After successful installation and BIOS configuration, install your preferred operating system. Ensure all necessary drivers for the chipset, audio, LAN, and any integrated graphics are installed from the MAXSUN support website or the provided driver disc. Regular driver updates are recommended for optimal system performance and stability.

7. MAINTENANCE

To ensure the longevity and stable operation of your motherboard, perform the following maintenance tasks:

- **Dust Removal:** Periodically clean dust from the motherboard and cooling components using compressed air. Ensure the system is powered off and unplugged before cleaning.

- **BIOS Updates:** Check the MAXSUN support website regularly for new BIOS versions that may offer improved compatibility or performance.

- **Driver Updates:** Keep all system drivers updated to their latest versions.

- **Component Checks:** Ensure all cables and components are securely connected.

8. TROUBLESHOOTING

If you encounter issues with your motherboard, consider the following common troubleshooting steps:

- **No Power:** Verify all power connections (24-pin ATX, 8-pin CPU) are securely seated. Check the power supply unit (PSU) functionality.

- **No Display:** Ensure the monitor is connected to the correct display output (motherboard or discrete graphics card). Reseat the RAM modules. If using an APU, ensure your CPU supports integrated graphics.

- **System Instability:** Check RAM compatibility and seating. Ensure CPU cooler is properly installed and thermal paste is applied. Verify power supply is sufficient for all components.

- **Boot Issues:** Check boot order in BIOS. Ensure storage devices are properly connected and detected. Reinstall the operating system if necessary.

- **Peripheral Not Detected:** Ensure the peripheral is correctly connected. Install or update relevant drivers. Test the peripheral on another system if possible.
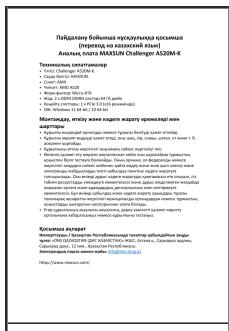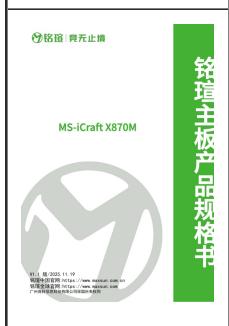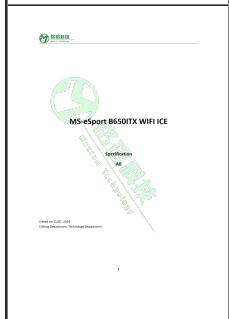
For persistent issues, consult the MAXSUN support website or contact customer service.

9. WARRANTY AND SUPPORT

MAXSUN products are covered by a limited warranty. Please refer to the warranty card included with your product or visit the official MAXSUN website for detailed warranty terms and conditions. For technical support, driver downloads, and further assistance, please visit the MAXSUN support portal.

Related Documents - A520

[MAXSUN Challenger A520M-K Аналық Платасы: Қосымша Нұсқаулық және Техникалық Сипаттамалар](#)
MAXSUN Challenger A520M-K аналық платасының пайдалану нұсқаулығына қосымша. Техникалық сипаттамалар, орнату, пайдалану және кәдеге жарату ережелері туралы ақпарат.

[Maxsun MS-Challenger B850M-K Motherboard Product Specifications](#)
Detailed specifications for the Maxsun MS-Challenger B850M-K motherboard, including CPU support, chipset, memory, expansion slots, storage, networking, USB connectivity, audio, and rear panel I/O.

[Maxsun MS-iCraft X870M Motherboard Specifications](#)
Comprehensive technical specifications for the Maxsun MS-iCraft X870M motherboard, detailing its form factor, CPU support, memory, expansion slots, connectivity, and more.

[Maxsun MS-eSport B650ITX WIFI ICE Motherboard Specification](#)
Comprehensive technical specifications and features of the Maxsun MS-eSport B650ITX WIFI ICE Mini-ITX motherboard, including chipset, CPU socket, memory, expansion slots, storage, I/O ports, and system compatibility.

MS-Challenger
H610M

[MAXSUN MS-Challenger H610M Motherboard Quick Guide](#)
This quick guide provides installation instructions, specifications, and BIOS setup details for the MAXSUN MS-Challenger H610M motherboard. Learn about component compatibility, port connections, and system configuration.

MS-Challenger H610M-H V1 WIFI
Manual

[Maxsun MS-Challenger H610M-H V1 WIFI Motherboard Manual](#)
Detailed specifications, configuration diagram, and port descriptions for the Maxsun MS-Challenger H610M-H V1 WIFI motherboard, supporting Intel 12th/13th/14th Gen processors.