

MS-Challenger H510M-H V3

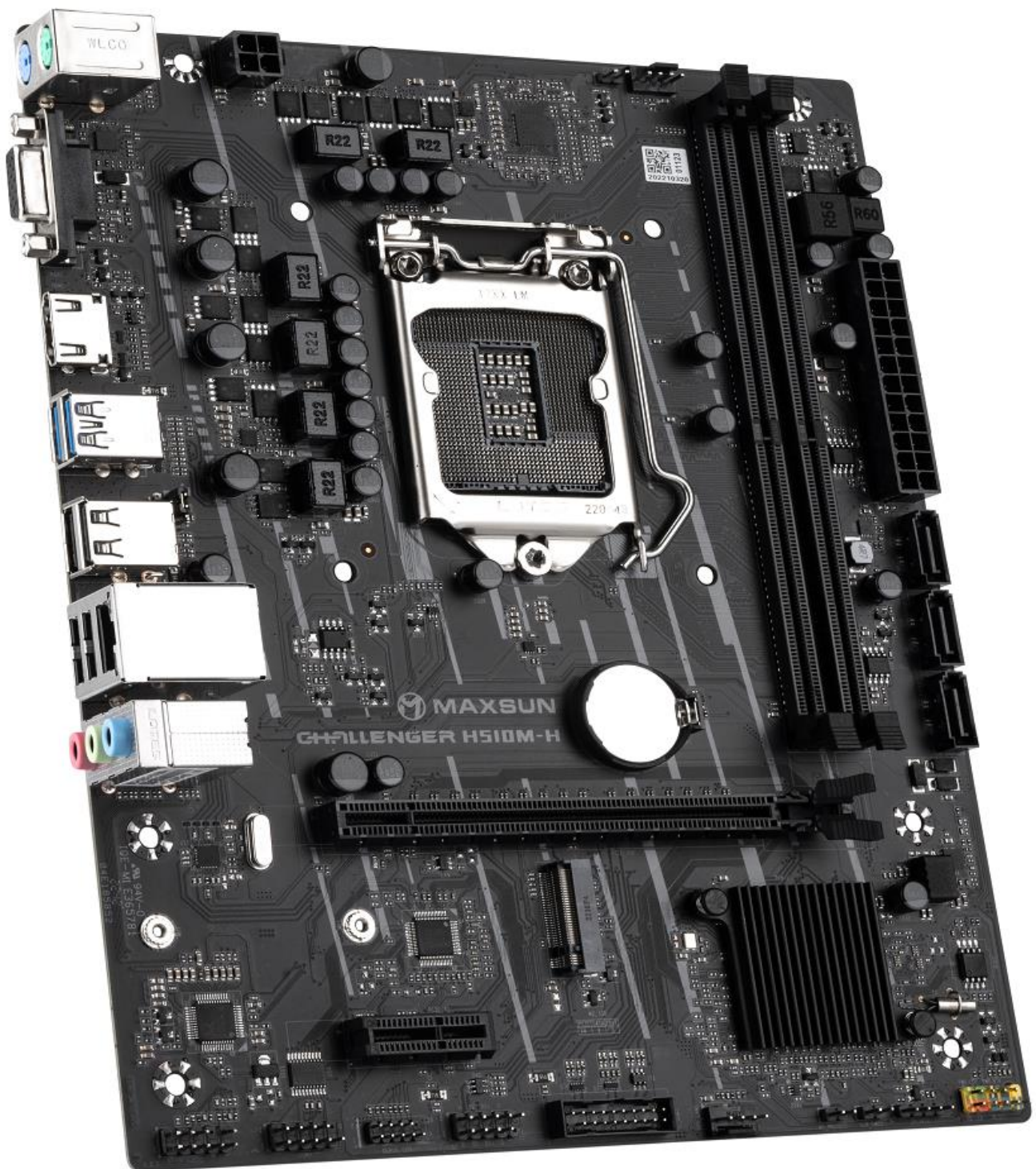
Manual

VER:A1

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Editorial Department: Technology Department

Chapter I Motherboard configuration diagram



(This drawing is for reference only, and some details will be designed and adjusted according to the actual situation.
Please take the physical object, and our company reserves the right of interpretation)

Chapter II Specifications

2.1 motherboard hardware specifications

Motherboard size	Micro ATX(225*180mm)
CPU	Support for LGA 1200 slots The 11th generation and 10th generation processors TDP: 55W
Chipset	Intel ® H470 High-speed chipset
Memory	2x DIMM DDR4 memory slots Maximum support total is 64GB Support for dual-channel memory technology Support for 2933 / 2666 / 2400 / 2133 MHz memory frequency
Display	Based on the display function of the integrated graphics card processor, the shared display memory technology is adopted 1x HDMI 1.4 port, up to 4096x2160@30Hz resolution (HDCP 2.2 support) 1x VGA port with maximum support of 1920 * 1200@60Hz resolution
Extended port	1x PCIE X16 3.0 slot 1x PCIE X1 3.0 slot Support AMD and NVIDIA independent graphics card
Audio	Integrated CX20632 sound card chip Rear audio port: 1x rear on-board LINE IN port, 1x rear on-board LINE OUT port, and 1x rear on-board MIC_IN microphone port. F_AUDIO pin: 1x set of front microphone pins and 1x set of front audio output pins 1x 4-pin horn SPEAKER pins
Network	Integrated REALTEK 8111H Network Card chip (10 / 100 / 1000Mbit) 1x onboard RJ45 port Support network arousal Support PXE no disk, UEFI no disk guide
Memory	1x M.2 slot (tight support 2242 / 2280 P CIE X4 / X2 channel SSD) 3x SATA 3.0 ports
USB	On-board rear port: 2x USB3.2 GEN 1 ports and 4x USB2.0 ports Plate insert: 1x (2) USB2.0 pins, 1x (2) USB3.2 GEN 1 pins
Inside board socket	1x 24-PIN motherboard ATX power supply port 1x 4-PIN motherboard ATX 12V power supply port, 12V input 1x COM_A pin 1x set of system fan pins and 1x group of CPU fan pins 1x CLR_CMOS pins 2x PS / 2 ports 1x Debug pin insert 1x ME protection pin 1x group chassis front control panel pin (F_PANEL)

Hardware monitoring	Voltage monitoring temperature monitoring Fan monitoring Intelligent fan speed control (the main board has been supported, the intelligent fan speed control also needs fan support)
Operating system	Support for Windows 10 64bit, Windows 11 64bit Support for Ubuntu 64bit
ESD protect	Air discharge ± 8 KV Class C ± 6 KV of grade B Contact discharge is ± 6 KV Class C ± 3 KV Grade B * Test of the whole machine under good grounding



A: PS / 2 port

A keyboard or mouse used for connecting to the PS / 2 port

B:VGA port

Up to 1920x 1080@60Hz resolution support for connecting the display.

C: HDMI port

HDMI 2.0 port, up to 4096x2160@60Hz resolution (HDCP 2.2 support), used to connect the HDMI display port.

D: USB 3.2 GEN 1 port

Up to support theoretical 5Gb speed transmission, downward compatible with USB1.1 standard, for connecting USB TYPE A devices.

E1: Double-layer USB 2.0 TYPE A port

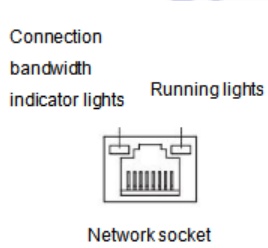
Up to the USB 2.0 standard support, downward compatible with the USB1.1 standard. For connecting to the USB TYPE A devices.

E2: Double-layer USB 2.0 TYPE A port

Up to the USB 2.0 standard support, downward compatible with the USB1.1 standard. For connecting to the USB TYPE A devices.

F: RJ45 port

Network cable port for accessing the network cable to connect the host system to the network with a maximum bandwidth of 1000M bps.



Connect the bandwidth indicator light	
tape width	The lamp state
Connection-less	go out
10M bps	go out
100M bps	Green is always bright
1000M bps	Orange is always bright

Run the indicator light	
No data transmission	go out
In data transmission	twinkle

G1: Audio-in port (blue)

For receiving audio input devices, such as mobile phone audio input.

G2: Audio-out port (light green)

Used to access audio output devices, such as headphones, speakers and other external playback devices.

G3: Audio-Microphone port (pink)

For access to audio input devices, such as microphone and other radio devices.

MS-挑战者 H510M-H V3

使用手册

VER:A1

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第一章 主板配置图



（此图仅供参考，部分细节会根据实际情况设计调整，请以实物为准，我司保留解释权）

第二章 规格

2.1、主板硬件规格

主板尺寸	MicroATX (225*180mm)
CPU	支持 LGA1200 插槽 第 11 代、第 10 代处理器 TDP: 55W
芯片组	Intel®H470 高速芯片组
内存	2 个 DIMM DDR4 内存槽 最高支持共 64GB 支持双通道内存技术 支持 2933/2666/2400/2133MHz 内存频率
显示	基于具备集成显卡处理器的显示功能，采用共享显示内存技术 1 个 HDMI 1.4 接口，最高支持 4096x2160@30Hz 分辨率（支持 HDCP2.2） 1 个 VGA 接口，最高支持 1920*1200@60Hz 分辨率
扩展接口	1 个 PCIEX16 3.0 插槽 1 个 PCIEX1 3.0 插槽 支持 AMD 和 NVidia 独立显卡、台电 DG1 独立显卡
音频	集成 CX20632 声卡芯片 后置音频接口：1 个后置板载 LINE IN 接口，1 个后置板载 LINE OUT 接口，一个后置板载 MIC_IN 麦克风接口。 F_AUDIO 插针：1 组前置麦克风插针，1 组前置音频输出插针（此 2 个插针为 F_Audio 插针组） 1 组 4pin 喇叭 SPEAKER 插针
网络	集成 REALTEK8111H 网卡芯片 (10/100/1000Mbit) 1 个板载 RJ45 接口 支持网络唤醒 支持 PXE 无盘、UEFI 无盘引导
存储	1 个 M.2 插槽（支持 2242/2280 PCIe X4/X2 通道 SSD 和 SATA 通道） 3 个 SATA3.0 接口
USB	板载后置接口：2 个 USB3.2 GEN1 接口，4 个 USB2.0 接口 板内插针：1 组（2 个）USB2.0 插针，1 组（2 个）USB3.2 GEN1 插针
板内插座	1 个 24PIN 主板 ATX 供电接口 1 个 4PIN 主板 ATX 12V 供电接口，12V 输入 1 个 COM_A 插针 1 组系统风扇插针、1 组 CPU 风扇插针 1 组 CLR_CMOS 插针 2 个 PS/2 接口 1 个 Debug 插针 1 个 ME 保护插针 1 组机箱前置控制面板插针（F_PANEL）
硬件监控	电压监测

	温度监测 风扇监测 智能风扇控速（主板已作支持，智能风扇控速也需风扇支持）
操作系统	支持 Windows10 64bit, Windows11 64bit 支持 Ubuntu 64bit
ESD 防护	空气放电 $\pm 8KV$ C 级 $\pm 6KV$ B 级 接触放电 $\pm 6KV$ C 级 $\pm 3KV$ B 级 *整机接地良好的情况下测试



A: PS/2 接口

用于连接 PS/2 接口的键盘或者鼠标

B: VGA 接口

最高支持 1920x1080@60Hz 分辨率，用于连接显示器。

C: HDMI 接口

HDMI 2.0 接口，最高支持 4096x2160@60Hz 分辨率（支持 HDCP2.2），用于连接 HDMI 显示器接口。

D: USB3.2 GEN1 接口

最高支持理论 5Gb 速度传输，可向下兼容 USB1.1 标准，用于连接 USB TYPE A 设备。

E1: 双层 USB2.0 TYPE A 接口

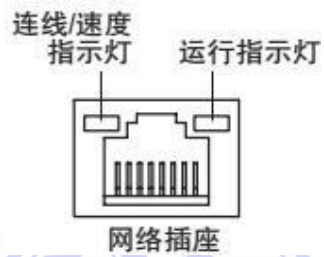
最高支持 USB2.0 标准，可向下兼容 USB1.1 标准。用于连接 USB TYPE A 设备。

E2: 双层 USB2.0 TYPE A 接口

最高支持 USB2.0 标准，可向下兼容 USB1.1 标准。用于连接 USB TYPE A 设备。

F: RJ45 接口

网线接口，用于接入网线将主机系统连接到网络，最高带宽 1000Mbps。



连接带宽指示灯	
带宽	灯状态
无连接	灭
10Mbps	灭
100Mbps	绿色常亮
1000Mbps	橙色常亮

运行指示灯	
无数据传输	灭
数据传输中	闪烁

- G1: Audio-in 接口 (蓝色)
用于接收音频输入设备，如手机音频输入。
- G2: Audio-out 接口 (浅绿色)
用于接入音频输出设备，如耳机、音箱等外放设备。
- G3: Audio-麦克风接口 (粉红色)
用于接入音频输入设备，如麦克风等收音设备。