



MS- Challenger B610M-A V2

Manual

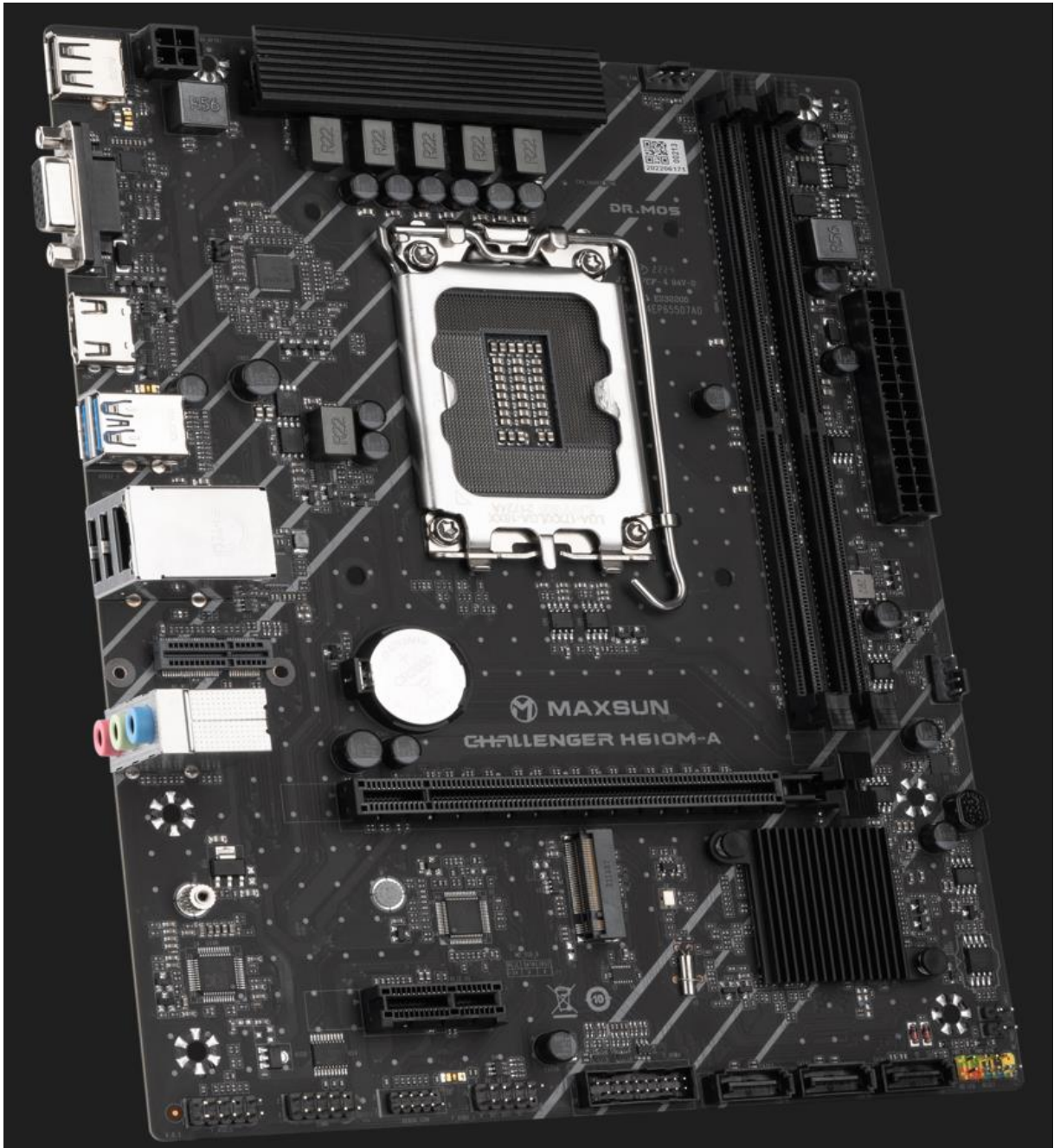
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SHANGKE GROUP

Edited on July 19, 2022

Editorial Department: Technical Department of Shangke Group

Chapter I Configuration Diagram of Mainboard



(This drawing is for reference only, and some details will be designed and adjusted according to the actual situation. Please refer to the material object, and our company reserves the right to interpret it.)

Chapter II Specifications

2.1 motherboard hardware specifications

Main board size	MicroATX(225*180mm)
CPU	Support LGA1700 slot 12th generation processor TDP: 55W
chipset	Intel®H610 high-speed chipset
Memory	2 DIMM DDR4 memory slots The maximum support is 64GB. Support dual-channel memory technology Support 3200/2933/2666/2400/2133MHz memory frequency.
Display	Based on the display function with integrated graphics card processor, using shared display memory technology 1 HDMI 1.4 interface, up to support 4096x2160@30Hz Resolution (HDCP2.2 supported) 1 VGA interface, up to 1920* 1200@60Hz resolving power
expansion interface	1 PCIE X16 4.0 slot 1 PCIE X1 3.0 slot Support AMD and NVIDIA discrete graphics cards and DG1 discrete graphics cards. Support PCIE resizable bar technology (synchronization between CPU and graphics card is required)
audio	Integrated REALTEK ALC897 sound card chip Support simultaneous output of front and rear channels (need to be set in HD audio controller) Rear audio interface: 1 rear onboard LINE IN interface, 1 rear onboard LINE OUT interface and 1 rear onboard MIC_IN microphone interface. F_AUDIO pin: 1 set of front microphone pin and 1 set of front audio output pin (these two pins are F_Audio pin groups).
network	Integrated REALTEK 8111H network card chip (10/100/1000Mbit) 1 onboard RJ45 interface Support network wake-up Support PXE diskless and UEFI diskless boot.
storage	1 M.2 slot (only 2242/2280 PCIE X4/X2 3.0 channel SSD is supported) 3 SATA3.0 interfaces
USB	On-board rear interface: 2 USB3.2 GEN1 interfaces and 3 USB2.0 interfaces. On-board pins: 1 set (2) of USB2.0 pins and 1 set (2) of USB3.2 GEN1 pins.
In-board socket	1 24PIN motherboard ATX power supply interface 1 4PIN motherboard ATX 12V power supply interface with 12V input. 1 set of system fan pins, 1 set of CPU fan pins 1 set of chassis front control panel pins (F_PANEL)

Hardware monitoring	Voltage monitoring Temperature monitoring Fan monitoring Intelligent fan speed control (the motherboard has been supported, and the intelligent fan speed control also needs fan support)
operating system	Supports Windows10 64bit and Windows11 64bit. Support Ubuntu 64bit
ESD protection	Air discharge $\pm 8KV$ Level C $\pm 6KV$ Class B Contact discharge $\pm 6KV$ Level C $\pm 3KV$ Class B *Test with the complete machine grounded well



A: single-layer USB2.0 TYPE A interface

Up to support USB2.0 standard, but backwards compatibility USB1.1 standard. Used to connect USB TYPE A devices.

B:VGA interface

Supports up to 1920x1080@60Hz resolution, which is used to connect monitors.

C: HDMI interface

HDMI1.4 interface, which supports up to 4096x2160@30Hz resolution (supports HDCP2.2), and is used to connect the HDMI display interface.

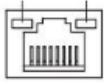
D: double-layer USB3.2 GEN1 interface

Maximum support for theoretical 5Gb speed transmission, which can meet the standards of backwards compatibility USB1.1 and USB2.0, and can be used to connect USB TYPE A devices.

E: RJ45 interface

Network cable interface, which is used to access the network cable to connect the host system to the network, with a maximum bandwidth of 1000Mbps.

Connection
bandwidth
indicator lights Running lights



Network socket

Connection bandwidth indicator	
bandwidth	Lamp state
connectionless	put out
10Mbps	Green is always bright.
100Mbps	Green is always bright.
1000Mbps	Orange is always bright

Running indicator lamp	
No data transmission	put out
In data transmission	glimmer

F: double-layer USB2.0 TYPE A interface

Up to support USB2.0 standard, but backwards compatibility USB1.1 standard. Used to connect USB TYPE A devices.

G: wireless network card socket

Add your own WIFI module, which supports WIFI6E and Bluetooth 5.2 functions at most (network card support is required).

H1: Audio-in interface (blue)

Which is use for receiving audio input equipment, such as a mobile phone.

H2: audio-out interface (light green)

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

H3: audio-microphone connector (pink)

Used to access audio input devices, such as microphones and other radio equipment.

MS-挑战者 B610M-A V2

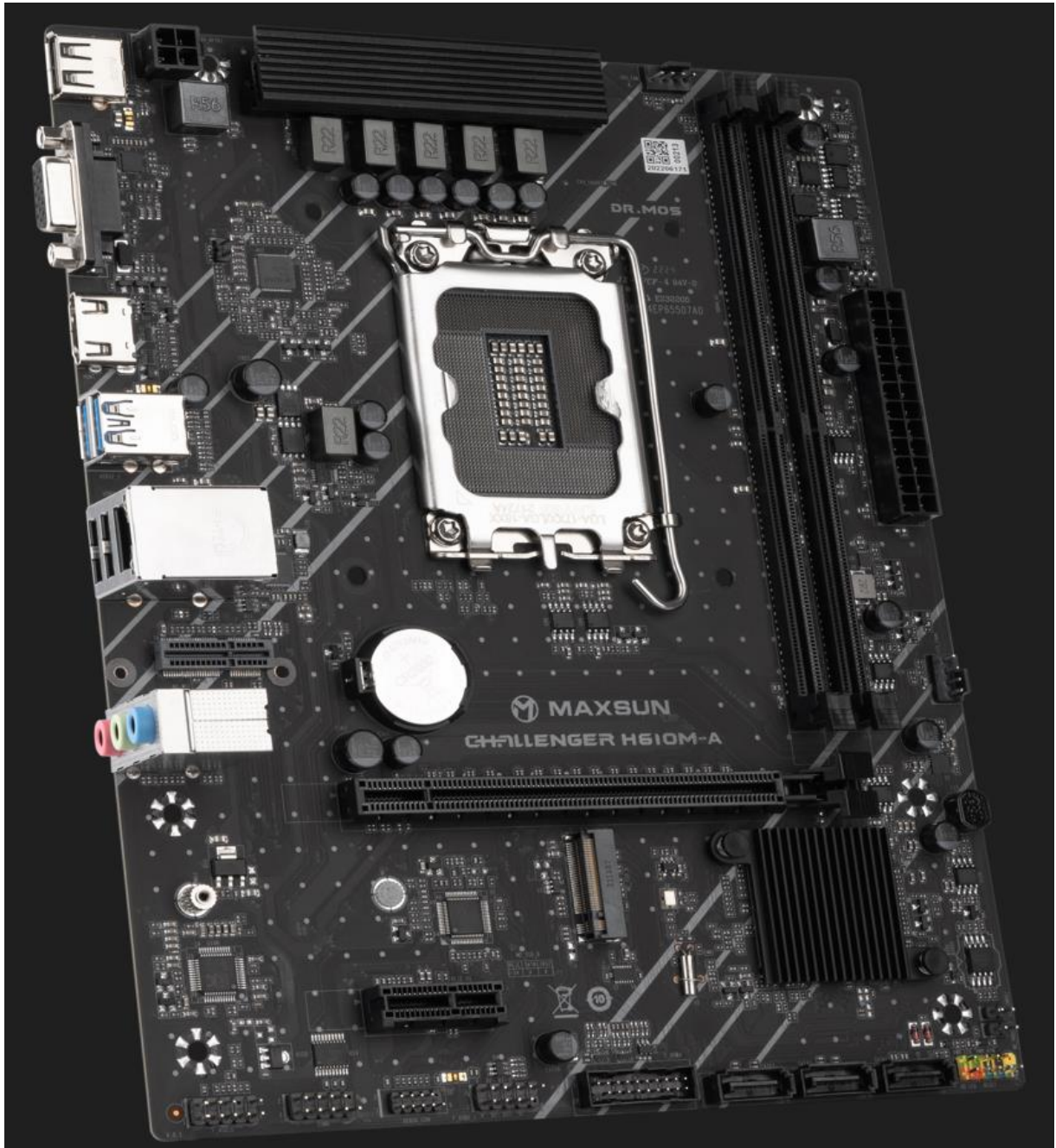
使用手册

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编辑时间：2022 年 07 月 19 日

编辑部门：商科集团技术部

章 主板配置图



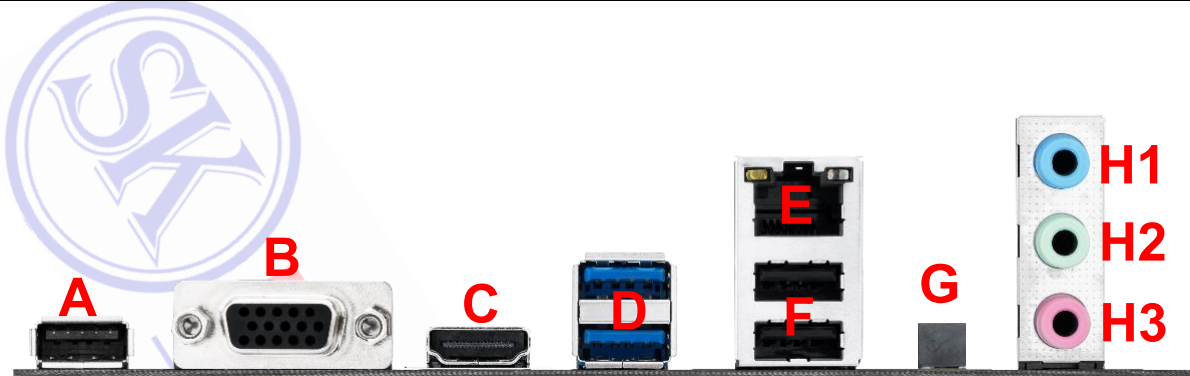
(此图仅供参考，部分细节会根据实际情况设计调整，请以实物为准，我司保留解释权)

第二章 规格

2.1、主板硬件规格

主板尺寸	MicroATX (225*180mm)
CPU	支持 LGA1700 插槽 第 12 代处理器 TDP: 55W
芯片组	Intel®H610 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 3200/2933/2666/2400/2133MHz 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 4.0 插槽 1 个 PCIEX1 3.0 插槽 支持 AMD 和 NVidia 独立显卡、DG1 独立显卡 支持 PCIe resizable bar 技术（需 CPU 和显卡同步支持）
音频	集成 REALTEK ALC897 声卡芯片 支持前后声道同时输出（需要高清音频控制器中设置） 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）
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（仅支持 2242/2280 PCIe X4/X2 3.0 通道 SSD） 3 个 SATA3.0 接口
USB	板载后置接口：2 个 USB3.2 GEN1 接口，3 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 组系统风扇插针、1 组 CPU 风扇插针 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 ± 8KV C级 ± 6KV B级 接触放电 ± 6KV C级 ± 3KV B级 *整机接地良好的情况下测试



A: 单层 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。

B: VGA 接口

最高支持 1920x1080@60Hz 分辨率, 用于连接显示器。

C: HDMI 接口

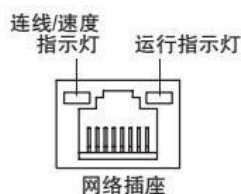
HDMI 1.4 接口, 最高支持 4096x2160@30Hz 分辨率 (支持 HDCP2.2), 用于连接 HDMI 显示器接口。

D: 双层 USB3.2 GEN1 接口

最高支持理论 5Gb 速度传输, 可向下兼容 USB1.1、USB2.0 标准, 用于连接 USB TYPE A 设备。

E: 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	绿色常亮
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

F: 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。

G: 无线网卡插座

自行添加 WIFI 模块, 最高支持 WIFI6E 和蓝牙 5.2 功能 (需要网卡支持)。

H1: Audio-in 接口 (蓝色)

用于接收音频输入设备，如手机音频输入。

H2: 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。

H3: 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。

