



MS-Challenger B450M

Manual

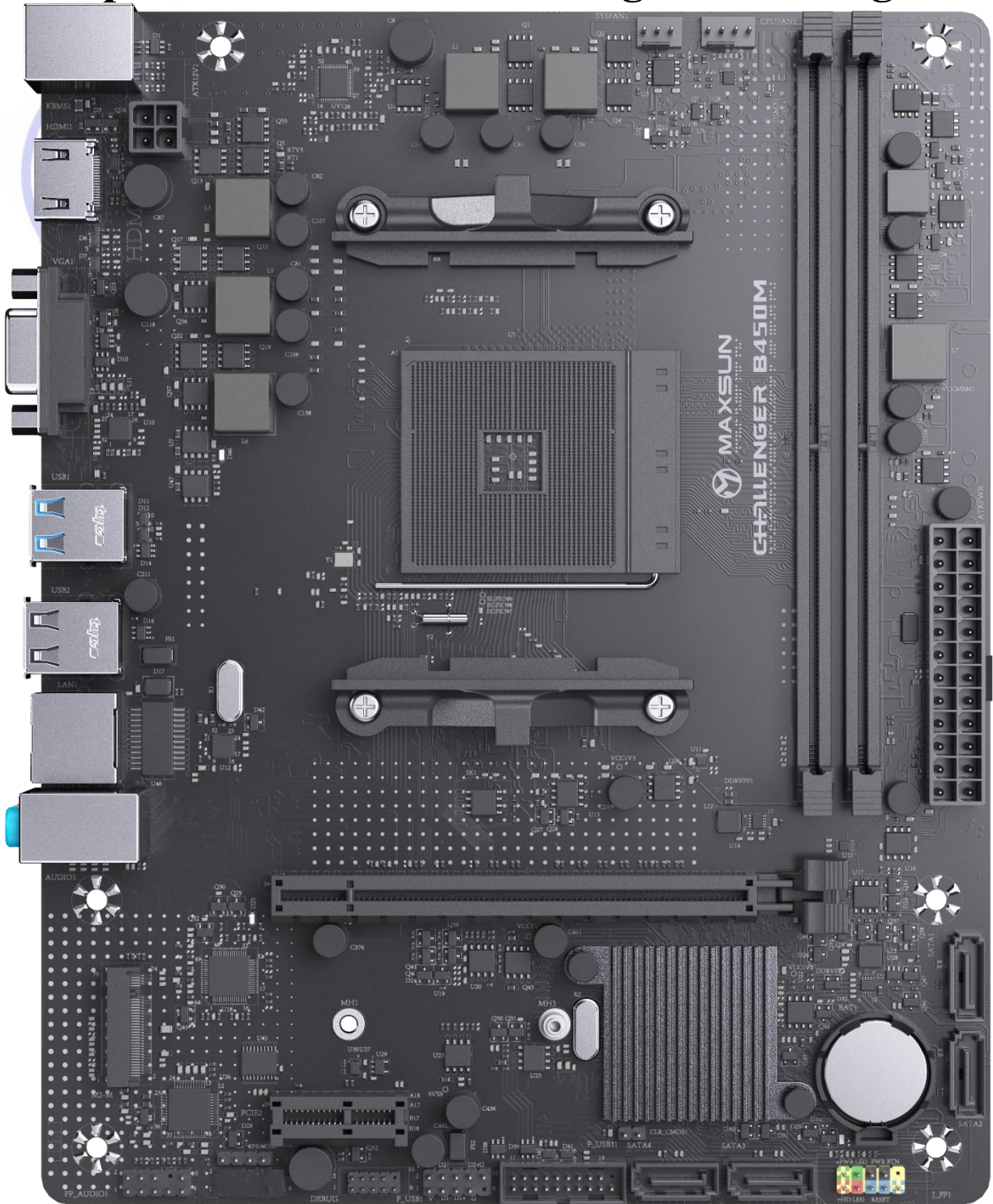
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SHANGKE GROUP

Edit: March 24,2023

Editorial Department: Technology Department

Chapter 1 Motherboard configuration diagram



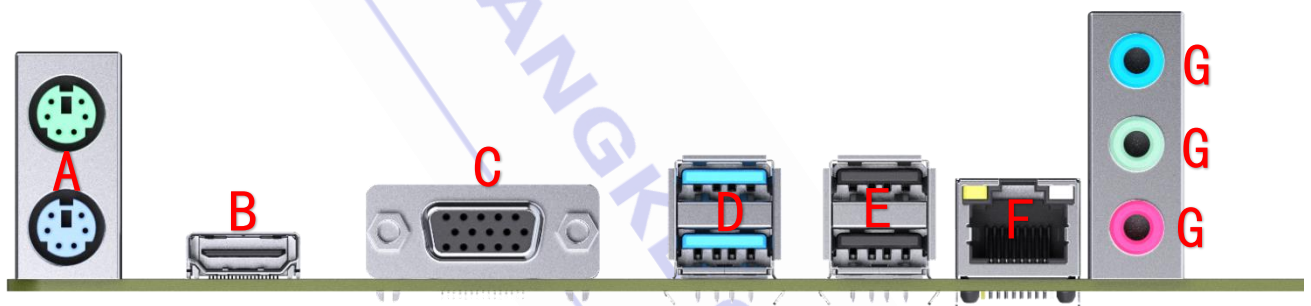
(This drawing is for reference only, and some details will be designed and adjusted according to the actual situation. Please take the physical object, and our company reserves the right of interpretation)

Chapter 2 Specifications

2.1. Motherboard hardware specifications

Motherboard size	Micro ATX(220*175mm)
CPU	Support for the AM 4 slots RYZEN3000,4000,5000 CPU (no CPU overclocking technology) Ryzen + Radeon 4000,5000 CPU (no CPU overclocking technology) TDP: 65W (3 + 2 + 1 phase power supply)
Chipset	AMD 450 High-speed chipset
Memory	2x DIMM DDR4 memory slots Maximum support in total is 64GB Support for dual-channel memory technology Support for 3200 / 2933 / 2666 / 2400 / 2133 MHz / OC memory frequency
Display	Based on the display function of the integrated graphics card processor, the shared display memory technology is adopted 1x HDMI port with 4096x2160@30Hz resolution 1x VGA port with maximum support of 1920 * 1080@60Hz resolution
Extended port	1x PCIE X16 3.0 slot, 1x PCIE X1 3.0 slot Support for AMD and NVIDIA independent graphics cards
Audio	Integrated ALC897 sound card chip Supports the simultaneous output of the front and rear sound channels 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 pin and 1x set of front audio output pin 1x 4pin 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
Storage	1x M.2 4.0 Slot (support for 2242 / 2280 PCIE X4 / X2 and SATA channel SSD) 4x SATA 3.0 ports
USB	On-board rear port: 2x USB 3.2 GEN 1 ports and 2x USB2.0 ports Plate insert: 1x (2) USB2.0 pins, 1x (2) USB 3.2 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 set of PS/2 ports 1x set of system fan pins and 1 group of CPU fan pins (all support intelligent fan adjustment) 1x CLR _CMOS pins 1x Debug 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
Packaging size and weight	Box size: 265 * 246 * 55mm Monolithic color bag weight: 637g Size of the outer box: 510 * 280 * 300mm Weight of the whole box: 7.4kg



A: PS / 2 port

The green port for PS / 2 mouse and the purple port for PS / 2 keyboard.

B: The HDMI port

Up to 4096x2160@30Hz resolution (HDMI version 2.0 and HDCP 2.2), for connecting the display.

C: The VGA port

Up to 1920x1080@60Hz resolution support for connecting the display.

D: Double-layer USB3.2 GEN1 TYPE A port

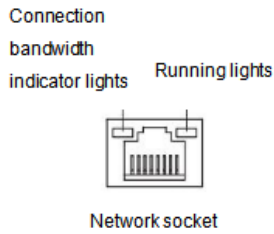
Up to support theoretical 5Gb speed transmission, downward compatible with USB1.1 standard, for connecting USB TYPE A devices.

E: Double-layer USB2.0 TYPE A port

Up to the USB2.0 standard support, downward compatible with the USB1.1 standard. For connecting to the USB TYPE A devices.

F: RJ45 port

Network cable port, used to access the network cable to link the host system to the network, with a maximum bandwidth of 1000M bps.



Speed indicator light	
tape width	The lamp state
10M bps	The light goes off
100M bps	Green is always bright
1000M bps	Green is always bright

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

G1: LINE 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.

G 3: Audio-Microphone port (pink)

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



MS-挑战者 B450M

使用手册

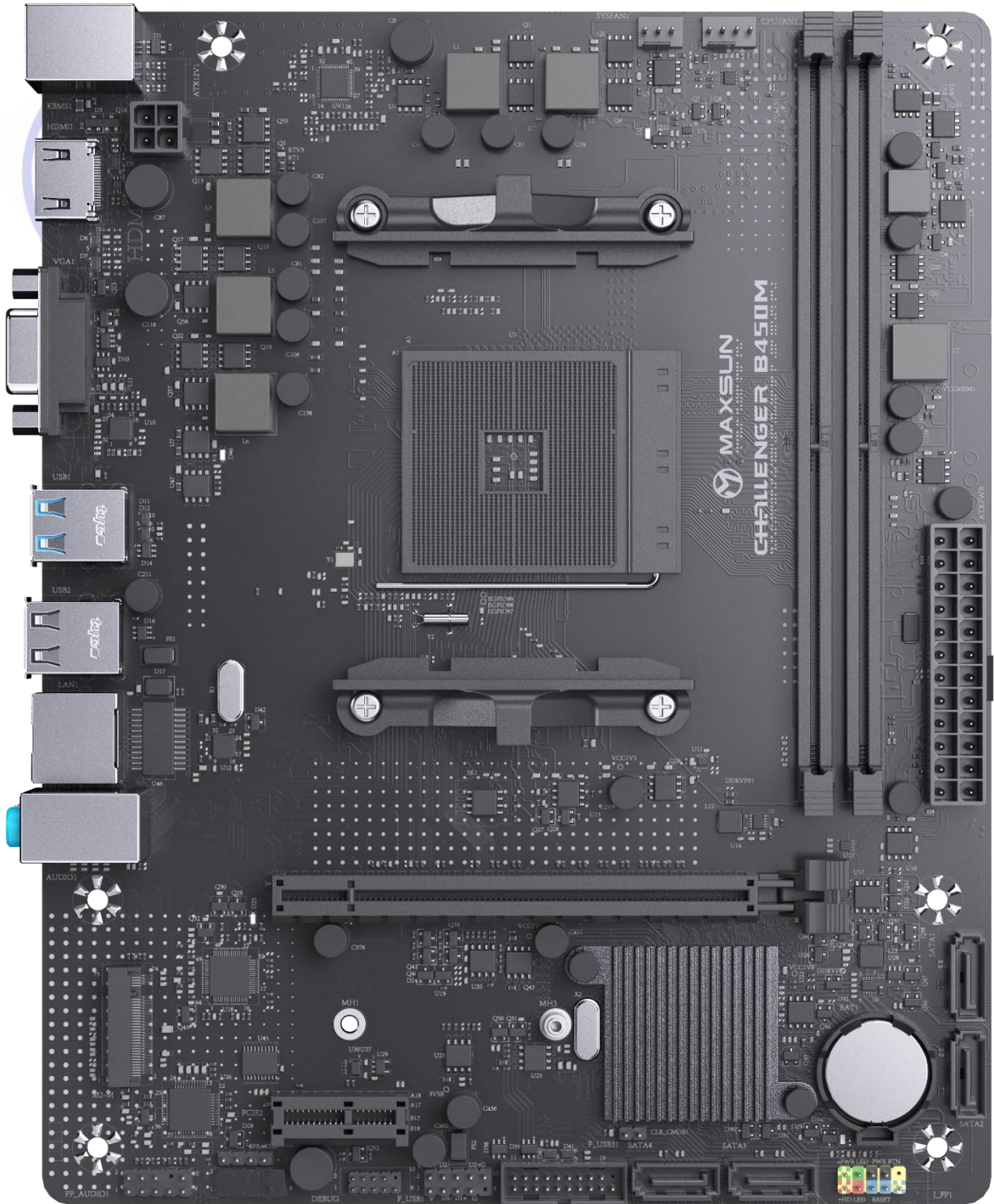
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编辑时间：2023 年 3 月 24 日

编辑部门：商科集团技术部

第一章 主板配置图



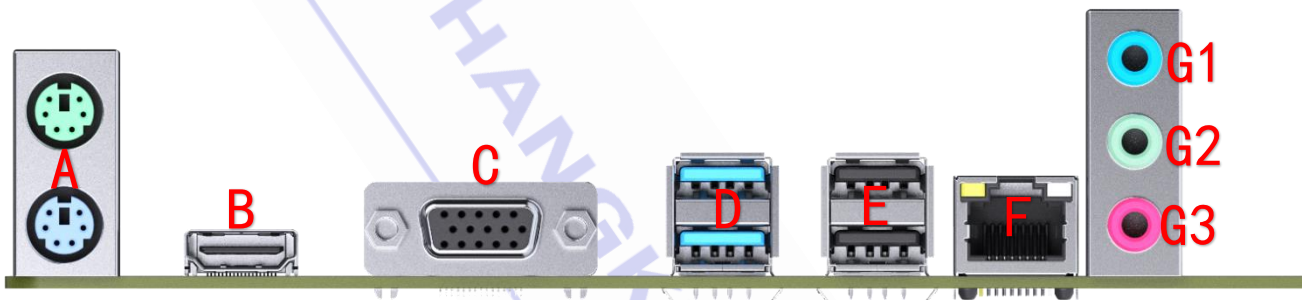
(此图仅供参考，部分细节会根据实际情况设计调整，请以实物为准，我司保留解释权)

第二章 规格

2.1、主板硬件规格

主板尺寸	MicroATX(220*175mm)
CPU	支持 AM4 插槽 RYZEN3000、4000、5000 的 CPU(不支持 CPU 超频技术) Ryzen+Radeon 4000、5000 的 CPU(不支持 CPU 超频技术) TDP: 65W(3+2+1 相供电)
芯片组	AMD 450 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/OC Memeroy 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 接口, 最高支持 4096x2160@30Hz 分辨率 1 个 VGA 接口, 最高支持 1920*1080@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
音频	集成 ALC897 声卡芯片 支持前后声道同时输出 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 3.0 插槽 (支持 2242/2280 PCIE X4/X2 和 SATA 通道 SSD) 4 个 SATA3.0 接口
USB	板载后置接口: 2 个 USB3.2 GEN1 接口, 2 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 PS/2 接口 1 组系统风扇插针、1 组 CPU 风扇插针 (都支持智能风扇调节) 1 组 CLR_CMOS 插针 1 个 Debug 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
包装尺寸及重量	彩盒尺寸：265*246*55mm 单片彩包重量：637g 外箱尺寸：510*280*300mm 整箱重量：7.4kg



A: PS/2 接口

绿色接口用于连接 PS/2 鼠标，紫色接口用于连接 PS/2 键盘。

B: HDMI 接口

最高支持 4096x2160@30Hz 分辨率（HDMI2.0 版本及 HDCP2.2），用于连接显示器。

C: VGA 接口

最高支持 1920x1080@60Hz 分辨率，用于连接显示器。

D: 双层 USB3.2 GEN1 TYPE A 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。

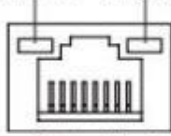
E: 双层 USB2.0 TYPE A 接口

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链接到网络，最高带宽 1000Mbps。

运行指示灯 速度指示灯



RJ45

速度指示灯	
带宽	灯状态
10Mbps	灯灭
100Mbps	绿色常亮
1000Mbps	绿色常亮

运行指示灯	
无数据传输	灭
数据传输中	闪烁

G1: LINE 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。