



# MS-Challenger B450M

**Manual**

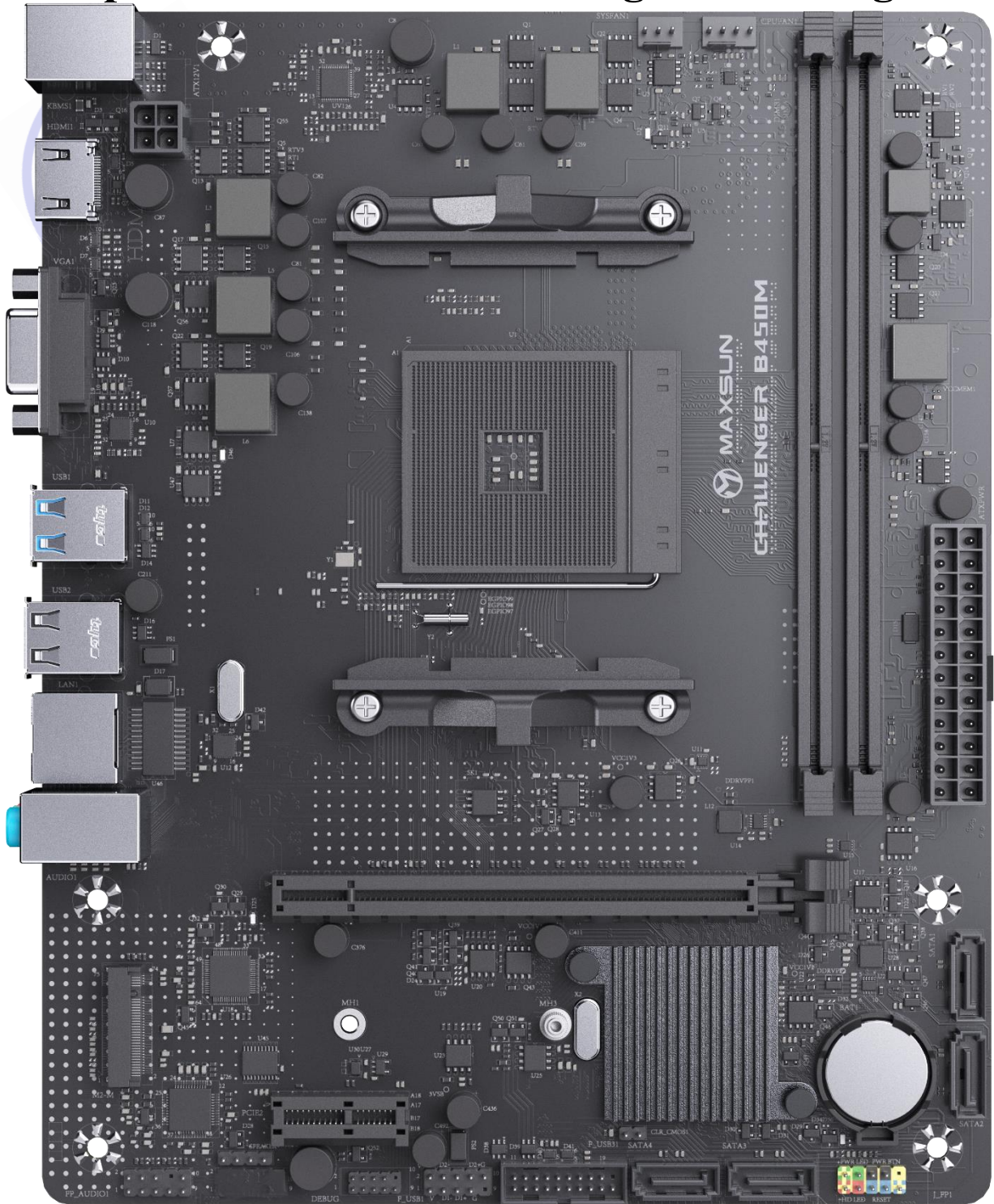
**VER:A0**

SHANGKE GROUP

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# Chapter 1 Motherboard configuration diagram



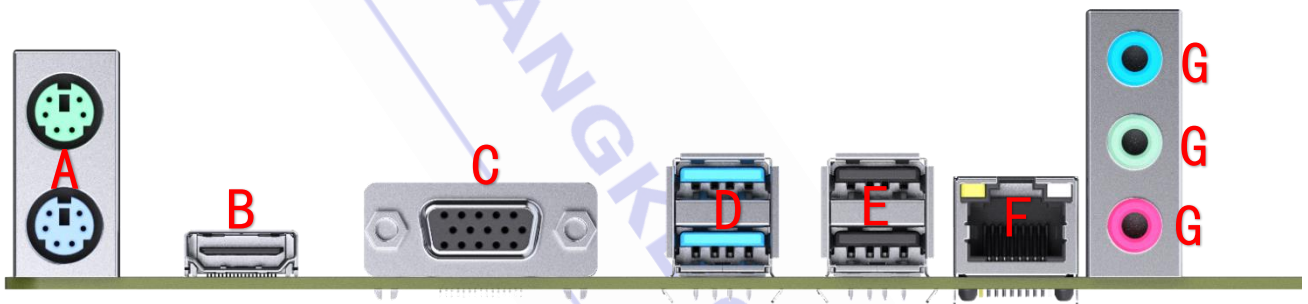
(This drawing is for reference only, and some details will be designed and adjusted according to the actual situation. Please take the physical object, and our company reserves the right of interpretation)

# Chapter 2 Specifications

## 2.1. Motherboard hardware specifications

|                     |   |
|---------------------|---|
| Motherboard size    | Micro ATX(220*175mm)  |
| CPU                 | Support for the AM 4 slots<br>RYZEN3000,4000,5000 CPU (no CPU overclocking technology)<br>Ryzen + Radeon 4000,5000 CPU (no CPU overclocking technology)<br>TDP: 65W (3 + 2 + 1 phase power supply)  |
| Chipset             | AMD 450 High-speed chipset  |
| Memory              | 2x DIMM DDR4 memory slots<br>Maximum support in total is 64GB<br>Support for dual-channel memory technology<br>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<br>1x HDMI port with 4096x2160@30Hz resolution<br>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<br>Support for AMD and NVIDIA independent graphics cards  |
| Audio               | Integrated ALC897 sound card chip<br>Supports the simultaneous output of the front and rear sound channels<br>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<br>F_AUDIO pin: 1x set of front microphone pin and 1x set of front audio output pin<br>1x 4pin horn SPEAKER pins |
| Network             | Integrated REALTEK 8111H Network Card chip (10 / 100 / 1000Mbit)<br>1x onboard RJ45 port<br>Support network arousal<br>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)<br>4x SATA 3.0 ports  |
| USB                 | On-board rear port: 2x USB 3.2 GEN 1 ports and 2x USB2.0 ports<br>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<br>1x 4-PIN motherboard ATX 12V power supply port, 12V input<br>1x set of PS/2 ports<br>1x set of system fan pins and 1 group of CPU fan pins (all support intelligent fan adjustment)<br>1x CLR _CMOS pins<br>1x Debug pin<br>1x group chassis front control panel pin (F_ PANEL)                              |

|                           |   |
|---------------------------|---|
| Hardware monitoring       | Voltage monitoring<br>temperature monitoring<br>Fan monitoring<br>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<br>Support for Ubuntu 64bit  |
| ESD protect               | Air discharge $\pm 8$ KV Class C<br>$\pm 6$ KV of grade B<br>Contact discharge is $\pm 6$ KV Class C<br>$\pm 3$ KV Grade B<br>* Test of the whole machine under good grounding                |
| Packaging size and weight | Box size: 265 * 246 * 55mm<br>Monolithic color bag weight: 637g<br>Size of the outer box: 510 * 280 * 300mm<br>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

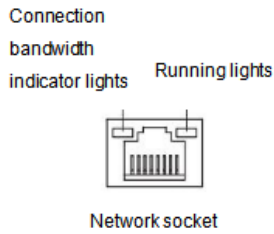
Up to support theoretical 5Gb speed transmission, downward compatible with USB1.1 standard, for connecting USB TYPE A devices.

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

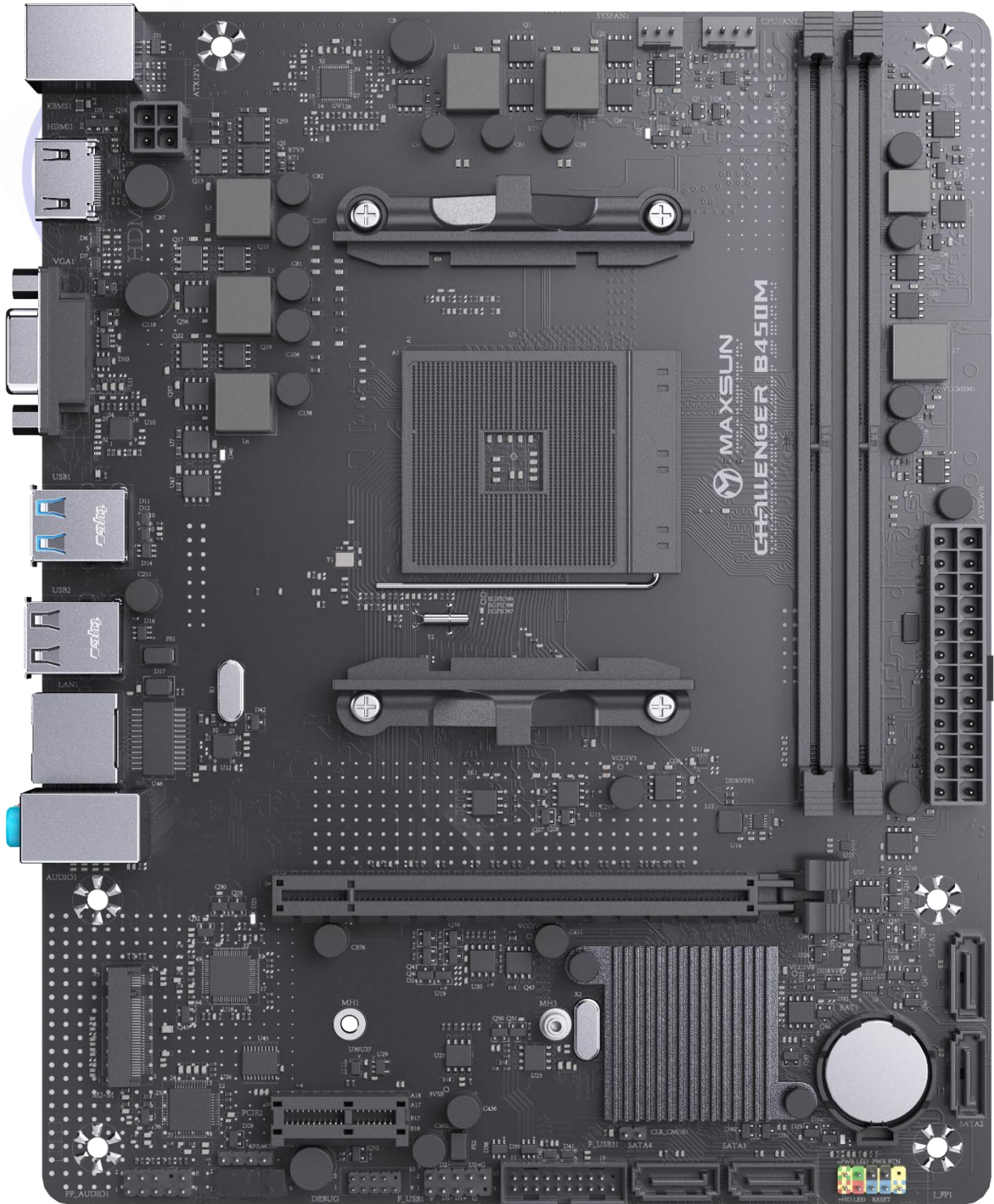
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# 第一章 主板配置图



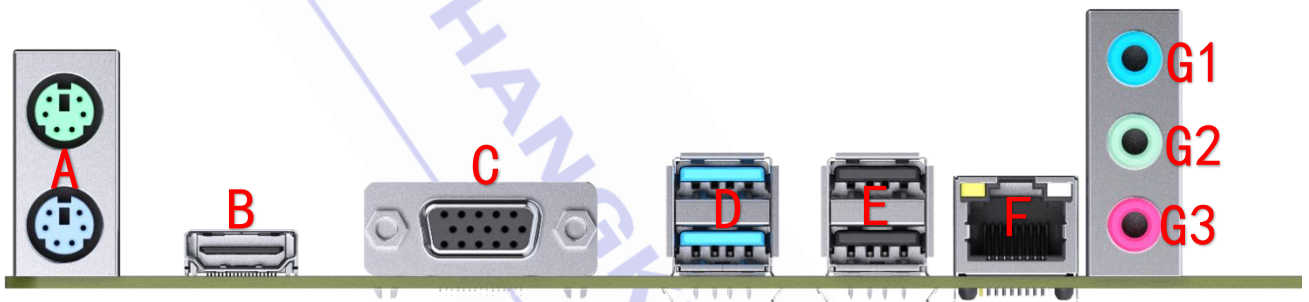
(此图仅供参考，部分细节会根据实际情况设计调整，请以实物为准，我司保留解释权)

## 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<br>RYZEN3000、4000、5000 的 CPU(不支持 CPU 超频技术)<br>Ryzen+Radeon 4000、5000 的 CPU(不支持 CPU 超频技术)<br>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<br>最高支持共 64GB<br>支持双通道内存技术<br>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<br>1 个 HDMI 接口, 最高支持 4096x2160@30Hz 分辨率<br>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<br>支持 AMD 和 NVidia 独立显卡  |
| 音频   | 集成 ALC897 声卡芯片<br>支持前后声道同时输出<br>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<br>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)<br>1 组 4pin 喇叭 SPEAKER 插针 |
| 网络   | 集成 REALTEK8111H 网卡芯片(10/100/1000Mbit)<br>1 个板载 RJ45 接口<br>支持网络唤醒<br>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)<br>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<br>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<br>1 个 4PIN 主板 ATX 12V 供电接口, 12V 输入<br>1 组 PS/2 接口<br>1 组系统风扇插针、1 组 CPU 风扇插针 (都支持智能风扇调节)<br>1 组 CLR_CMOS 插针<br>1 个 Debug 插针<br>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<br>风扇监测<br>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<br>支持 Ubuntu 64bit                  |
| ESD 防护  | 空气放电 ±8KV C 级<br>±6KV B 级<br>接触放电 ±6KV C 级<br>±3KV B 级<br>*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<br>单片彩包重量：637g<br>外箱尺寸：510*280*300mm<br>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。

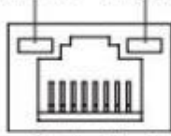
**E: 双层 USB2.0 TYPE A 接口**

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。