



# **MS-Challenger B650M**

**Manual**

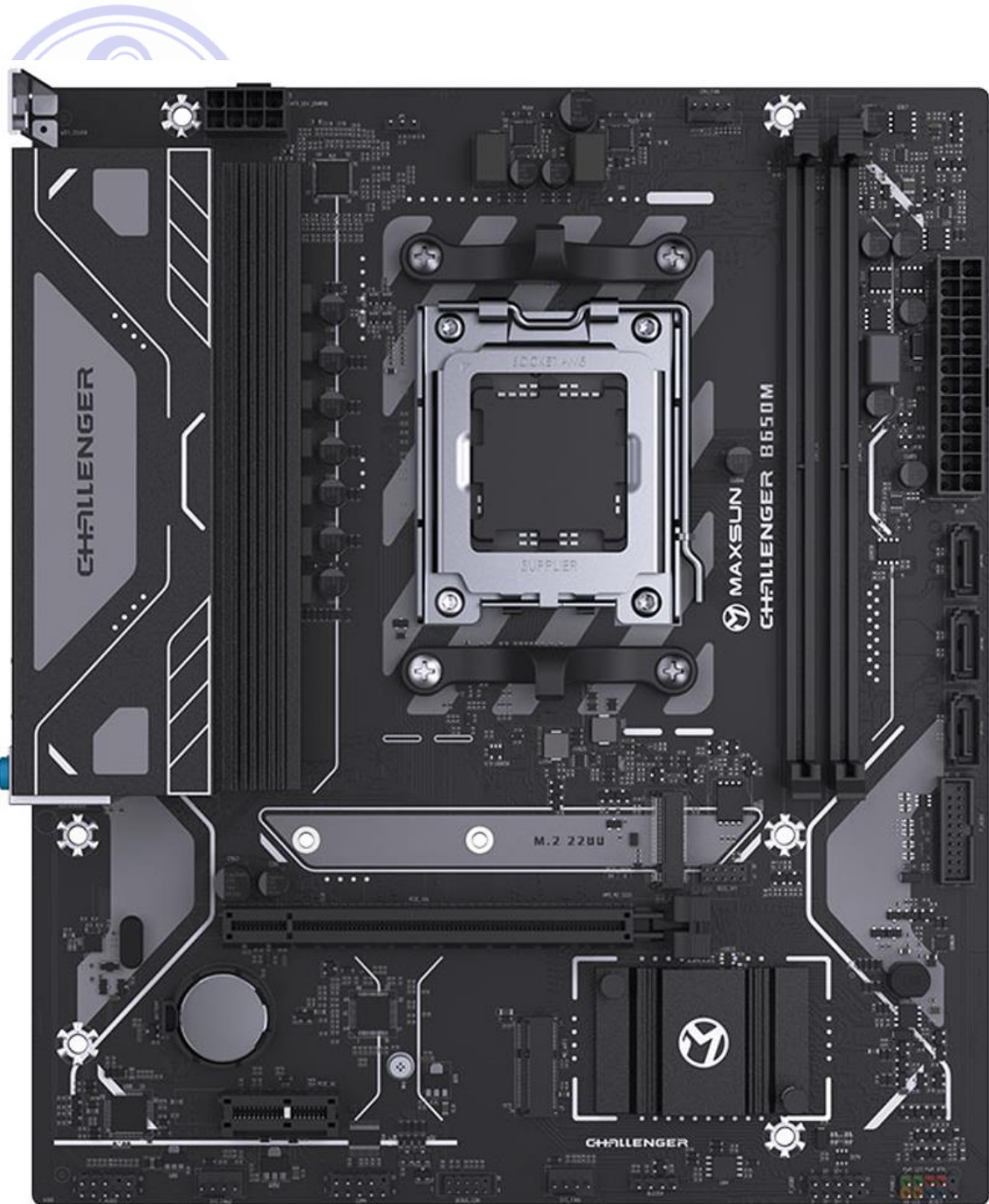
**VER:A0**

SHANGKE GROUP

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# Chapter I Motherboard Configuration Chart



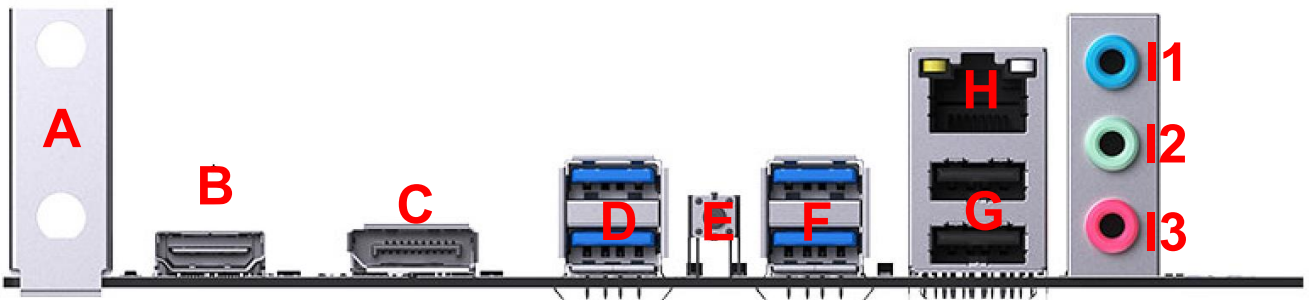
(This picture is for reference only, some details will be designed and adjusted according to the actual situation, please prevail in kind, our company reserves the right of interpretation)

# Chapter II Specifications

## 2.1. Motherboard hardware specifications

Motherboard Size	Micro ATX(245*210mm)
CPU	Supports LGA1718 slot AMD RYZEN7000 Series TDP: 155W (6+2+1 items)
Chipsets	Intel® B650 High Speed Chipset
Memory (RAM)	2* DIMM DDR5 memory slots Supports up to 64GB Supports dual-channel memory technology Support 4800MHZ/5200MHZ/OC Memeroy Memory Frequency
Display	Shared display memory technology based on display capabilities with integrated graphics processor 1* HDMI port, supports up to 2560*1440@60Hz resolution 1* DP connector, supports up to 2560*1440@60Hz resolution
Extended Interface	1* PCIE X16 4.0 slot, 1* PCIE X1 3.0 slot Supports AMD and NVIDIA and INTEL discrete graphics cards (DG1 not supported). Supports PCIE Resizable bar technology
Audio	Integrated ALC897 sound chip Support front and rear channel outputs at the same time Rear audio interfaces: 1* rear onboard LINE IN connector, 1* rear onboard LINE OUT connector, 1* rear onboard MIC_IN microphone connector F_AUDIO pins: 1* front microphone pin, 1* front audio output pin 1* set of 4-pin speaker BUZZER pins
Network	1* on-board RJ45 port Supports Wake-on-LAN Support PXE diskless, UEFI diskless boot M.2_WIFI slot, Intel CNVI protocol not supported
SSD	1* M.2 4.0 slot (supports 2242/2280 PCIE X4/X2 channel SSD only) 3* SATA3.0 ports
USB	Onboard rear ports: 4* USB3.2 GEN1 ports, 2* USB2.0 ports On-board pins: 1* set (2 pcs) of USB2.0 pins, 1* set (2 pcs) of USB3.2 GEN1 pins
In-board sockets	1* 24-PIN motherboard ATX power connector 1* 8-PIN Motherboard ATX 12V Supply Connector, 12V Input 1* COM_A pin 2* system fan pins, 1* CPU fan pin (except SYS_FAN2 pin which supports intelligent fan adjustment) 1* group CLR_CMOS button 1* Debug Pin 1* BIOS burn-in pin

	1* set of chassis front control panel pins (F_PANEL)
Hardware monitoring	Voltage monitoring Temperature monitoring Fan monitoring Intelligent fan speed control (supported by motherboard, intelligent fan speed control also requires fan support)
Operating system	Support Windows 10 64bit, Windows 11 64bit Ubuntu 64bit support
ESD protection	Air discharge $\pm 8\text{KV}$ Class C $\pm 6\text{KV}$ Class B Contact discharge $\pm 6\text{KV}$ Class C $\pm 3\text{KV}$ Class B *Tested with the whole machine well grounded
Package Size and Weight	Color box size: 289*245*65mm Veneer weight: 643.4g Single piece of color package weight: 976.2g Outer box size: 510*302*347mm Weight of the whole box: 10.9kg



**A:** WIFI antenna support bracket

When installing WIFI antennas, fix the WIFI antenna head.

**B:** HDMI Port

Supports up to 2560\*1440@60Hz resolution (HDMI version 1.4) for connecting to a monitor.

**C:** DP Port

Supports up to 2560\*1440@60Hz resolution for connecting to a monitor.

**D:** Double-layer USB3.2 GEN1 TYPE A connector

Supports up to 5Gb theoretical transfer speed and is backward compatible with USB1.1 standard for connecting USB TYPE A devices.

**E:** CLR\_CMOS button

Restore BIOS settings button, when you need to restore the settings, you need to disconnect the AC power and long press the button for 3-5S.

**F: Dual-layer USB3.2 GEN1 TYPE A connector**

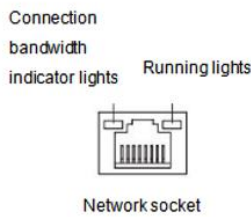
Supports up to 5Gb theoretical transfer speed and is backward compatible with USB1.1 standard for connecting USB TYPE A devices.

**G: Dual-layer USB2.0 TYPE A connector**

Supports up to USB2.0 standard and is backward compatible with USB1.1 standard. For connecting USB TYPE A devices.

**H: RJ45 Port**

Network cable interface for accessing a network cable to link the host system to the network with a maximum bandwidth of 1000Mbps.



Connection bandwidth indicator	
bandwidths	lamp state
connectionless	go out (of a fire etc)
10Mbps	go out (of a fire etc)
100Mbps	Green Always On
1000Mbps	Orange color is always on

Operation Indicator Light	
No data transmission	go out (of a fire etc)
during data transmission	vague (of speech)

**G1: LINE IN connector (blue)**

Used to receive audio input devices, such as cell phone audio input.

**G2: Audio-out connector (light green)**

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

**G3: Audio-Microphone connector (pink)**

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



# MS-挑战者 B650M

使用手册

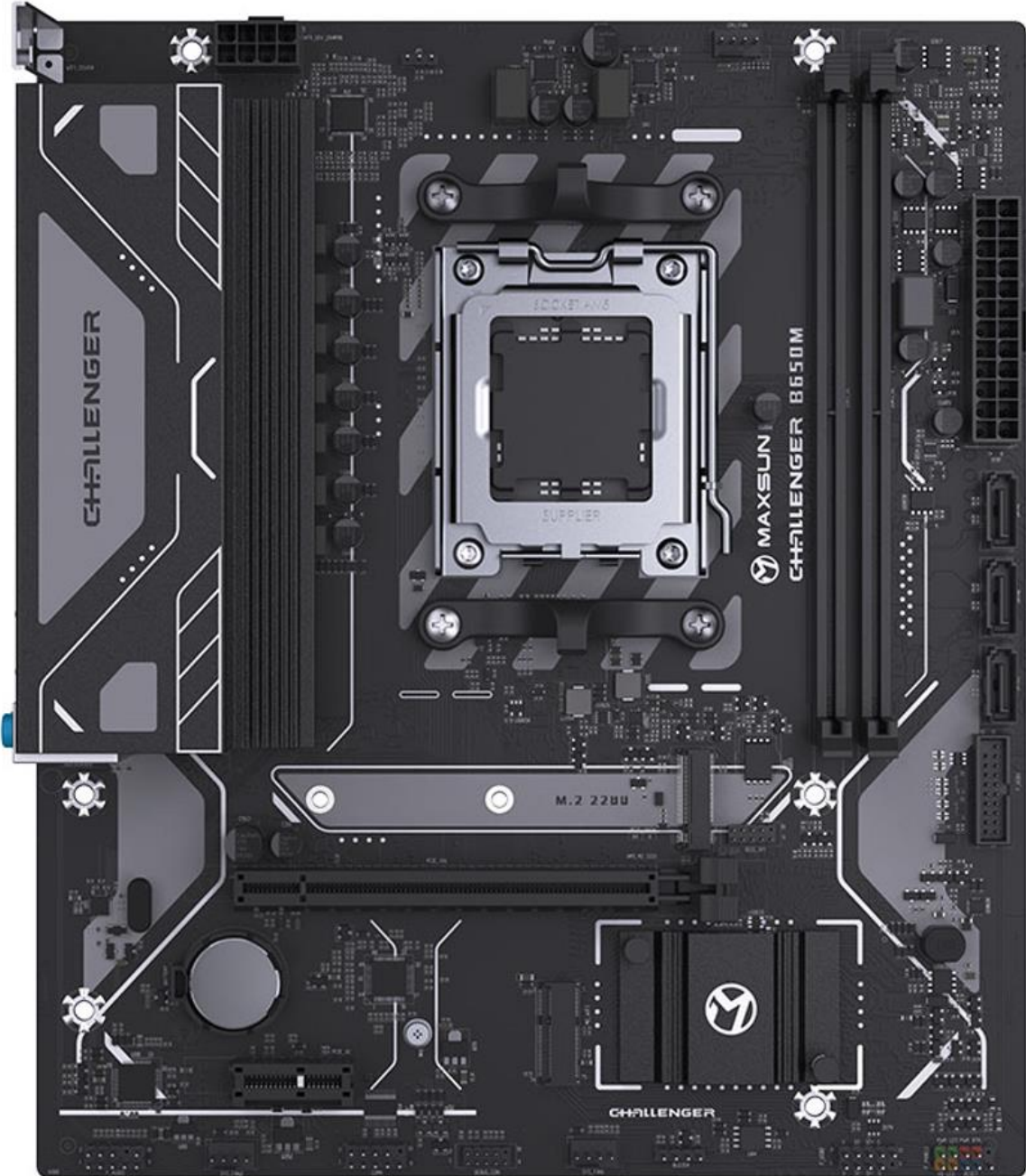
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## 第一章 主板配置图



(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)

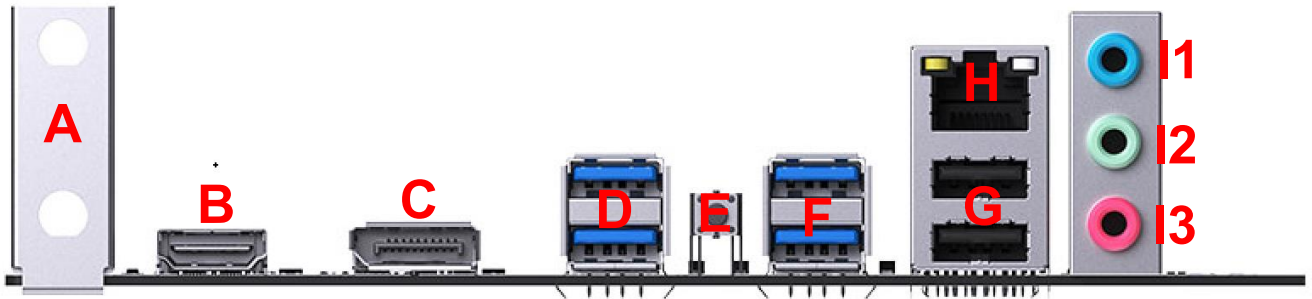
## 第二章 规格

### 2.1、主板硬件规格

主板尺寸	MicroATX (245*210mm)
CPU	支持 LGA1718 插槽 AMD RYZEN7000 系列 TDP: 155W (6+2+1 项)
芯片组	Intel®B650 高速芯片组
内存	2 个 DIMM DDR5 内存槽 最高支持共 64GB 支持双通道内存技术 支持 4800MHZ/5200MHZ/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 2560*1440@60Hz 分辨率 1 个 DP 接口, 最高支持 2560*1440@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 和 INTEL 独立显卡 (不支持 DG1) 支持 PCIE resizable bar 技术
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 BUZZER 插针
网络	1 个板载 RJ45 接口 支持网络唤醒 支持 PXE 无盘、UEFI 无盘引导 M.2_WIFI 插槽一个, 不支持 INTEL CNVI
存储	1 个 M.2 4.0 插槽 (仅支持 2242/2280 PCIE X4/X2 通道 SSD) 3 个 SATA3.0 接口
USB	板载后置接口: 4 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 8PIN 主板 ATX 12V 供电接口, 12V 输入 1 个 COM_A 插针 2 组系统风扇插针、1 组 CPU 风扇插针 (除 SYS_FAN2 插针外都支持智能风扇调节) 1 组 CLR_CMOS 按钮 1 个 Debug 插针 1 个 Bios 烧录插针 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：289*245*65mm 单板重量：643.4g 单片彩包重量：976.2g 外箱尺寸：510*302*347mm 整箱重量：10.9kg



**A: WIFI 天线支架**

用于 WIFI 天线安装时，固定 WIFI 天线头使用。

**B: HDMI 接口**

最高支持 2560\*1440@60Hz 分辨率（HDMI1.4 版本），用于连接显示器。

**C: DP 接口**

最高支持 2560\*1440@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: CLR\_CMOS 按钮**

还原 BIOS 设置按钮，需要还原设置时需断 AC 电源，并且长按按钮 3-5S。

**F: 双层 USB3.2 GEN1 TYPE A 接口**

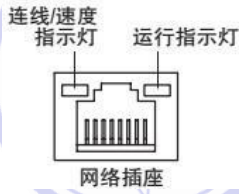
最高支持理论 5Gb 速度传输，可向下兼容 USB1.1 标准,用于连接 USB TYPE A 设备。

**G: 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。

**H: 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。



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: 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。