MS-Challenger A520M

Manual

VER:A0

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Editing Department: Technology Department

Chapter 1 Motherboard configuration diagram

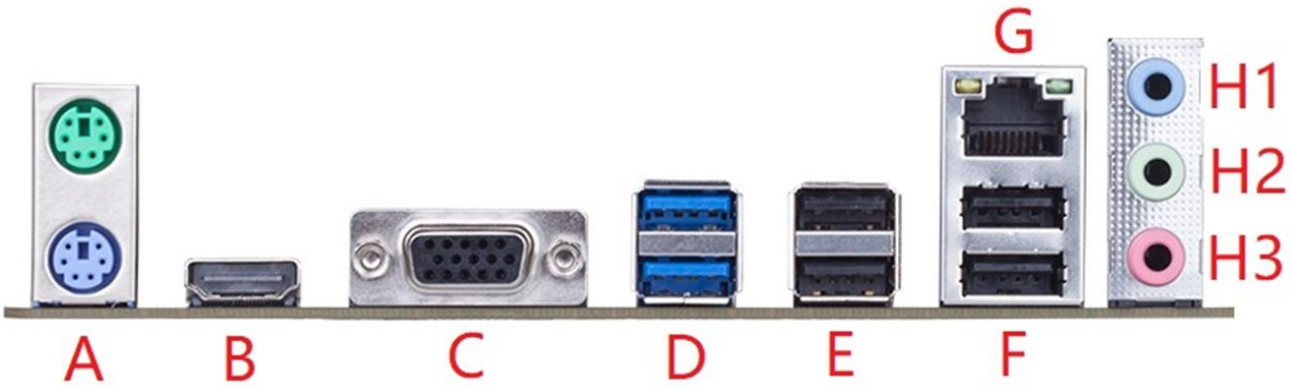
(This figure is for reference only, some details will be adjusted according to the actual situation, please refer to the actual design, our company reserves the right to interpret)

Chapter 2 Specifications

2.1 Motherboard hardware specifications

Motherboard size	Micro ATX(225*190mm)
CPU	Support for AMD AM4 slot AMD Ryzen the following processors: CPU for Ryzen3000, 4000, 5000 (CPU overclocking technology is not supported) Ryzen+ Radeon 4000, 5000 CPU (does not support CPU overclocking technology) TDP: 65W (4+2 phase power supply)
Chipset	AMD A520 Chipset
Memory	2x DIMM DDR4 memory slots Up to a total of 64GB is supported Dual-channel memory technology is supported Support for 3200/2933/2666/2400/2133 MHZ frequency memory
Display	Based on the display function with integrated graphics card processor, using shared display memory technology 1x HDMI1.4 port, the highest support 2560x1440@60Hz resolution 1x VGA port with up to 1920*1080@60Hz resolution
Expansion port	1x PCIE 3.0 X16 slot 1x PCIE 3.0 X1 slot Support for AMD and NVIDIA stand-alone graphics cards,
Audio	Integrated REALTEK ALC662/ALC897 sound card chip Support for simultaneous output of front and rear channels (requires setting in HD audio controller) Rear audio port: 1x rear onboard LINE IN port, 1x rear onboard LINE OUT port, and 1x rear onboard MIC_IN microphone port. F_AUDIO pins: 1x set of front microphone pins, 1x set of front audio output pins (2-pins are the F_Audio pins set) 1x set of 4-pin SPEAKER pins
Networking	Integrated REALTEK8111H NIC Chip (10/100/1000Mbit) 1x on-board RJ45 port Support for network wake up Support for PXE diskless boot and UEFI diskless boot
Storage	1x M.2 3.0 X4 slot (support NVMe and SATA) 4x SATA3.0 ports
USB	Onboard rear ports: 2x USB3.0 ports, 4x USB2.0 ports On-board pins: 1x set (2) USB2.0 pins, 1x set (2) USB3.0 pins
In-board socket	1x 24-PIN motherboard ATX power supply port 1x 8-PIN motherboard ATX 12V power port with 12V input 1x set of system fan pins and 1 set of CPU fan pins 1x set of CLR_CMOS pins 1x set of PS/2 ports

	1x COM pin 1x set of case front control panel pins (F_PANEL)
Hardware monitoring	Voltage monitoring Temperature monitoring Fan monitoring Intelligent fan speed control (motherboard has been supported, intelligent fan speed control also needs fan support)
Operating system	Support for Windows10 64bit, Windows11 64bit Support for Ubuntu 64bit
ESD protection	Air discharge ± 8KV Class C ±6KV Class B Contact discharge ± 6KV Class C ± 3KV Class B * The whole machine is well grounded under the condition of test



A: PS/2 port

Keyboard and mouse for connecting the PS/2 port

B:HDMI port

HDMI1.4 port, up to 2560x1440@60Hz resolution, used to connect to the HDMI display port.

C:VGA port

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

D: Dual layer USB3.0 port

Supports up to theoretical 5Gbps speed transfers, is backward compatible with USB2.0 and USB1.1 standards, and is used to connect USB TYPE A devices.

E: Dual layer USB2.0 TYPE A port

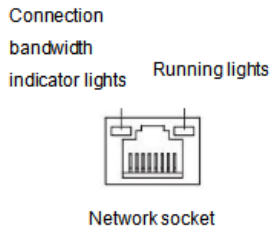
Supports up to 480Mbps theoretical speed transmission and is backward compatible with the USB1.1 standard.Used to connect USB TYPE A devices.

F: Dual layer USB2.0 TYPE A port

Supports up to 480Mbps theoretical speed transmission and is backward compatible with the USB1.1 standard.Used to connect USB TYPE A devices.

G: RJ45 port

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



Connection bandwidth indicator	
Bandwidth	Light status
No connection	destroy
10Mbps	Steady green
100Mbps	Steady green
1000Mbps	Steady orange

Running indicator	
No data transfer	destroy
Data in transit	Flashing

H1: Audio-in port (blue)

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

H2: Audio-out port (light green)

It is used to access audio output devices, such as headphones, speakers and other outgoing devices.

H3: Audio- Microphone port (pink)

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

MS-挑战者 A520M

使用手册

VER:A0

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第一章 主板配置图

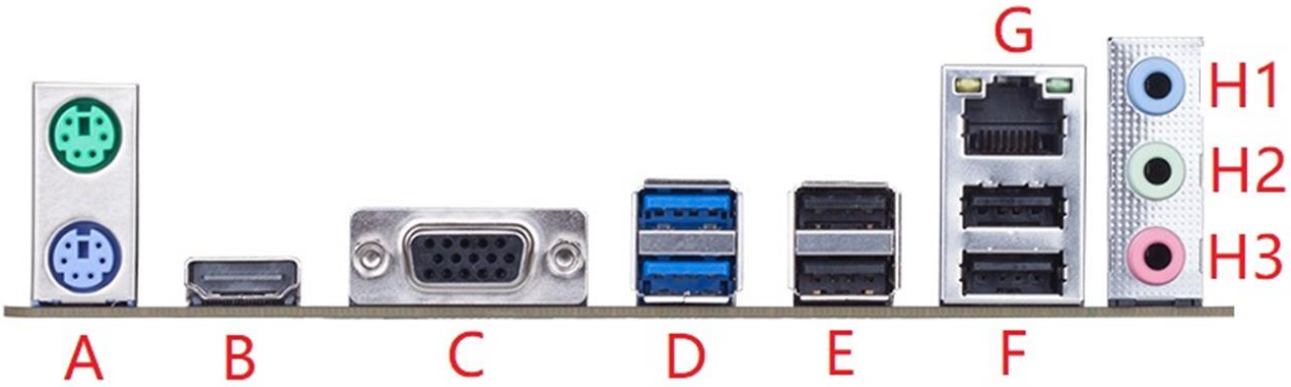
（此图仅供参考，部分细节会根据实际情况设计调整，请以实物为准，我司保留解释权）

第二章 规格

2.1、主板硬件规格

主板尺寸	MicroITX(225*190mm)
CPU	支持 AMD AM4 插槽 AMD Ryzen 以下处理器： 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（4+2 相供电）
芯片组	AMD A520 Chipset
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 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 HDMI1.4 接口，最高支持 2560x1440@60Hz 分辨率 1 个 VGA 接口，最高支持 1920*1080@60Hz 分辨率
扩展接口	1 个 PCIE 3.0 X16 插槽 1 个 PCIE 3.0 X1 插槽 支持 AMD 和 NVidia 独立显卡、
音频	集成 REALTEK ALC662/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_Aduio 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 X4 插槽（支持 NVMe 与 SATA 类型） 4 个 SATA3.0 接口
USB	板载后置接口：2 个 USB3.0 接口，4 个 USB2.0 接口 板内插针：1 组（2 个）USB2.0 插针，1 组（2 个）USB3.0 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 组系统风扇插针、1 组 CPU 风扇插针 1 组 CLR_CMOS 插针 1 组 PS/2 接口 1 个 COM 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：PS/2 接口

用于连接 PS/2 接口的键盘和鼠标

B:HDMI 接口

HDMI1.4 接口，最高支持 2560x1440@60Hz 分辨率，用于连接 HDMI 显示器接口。

C:VGA 接口

最高支持 1920x1080@60Hz 分辨率，用于连接显示器。

D：双层 USB3.0 接口

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

E：双层 USB2.0 TYPE A 接口

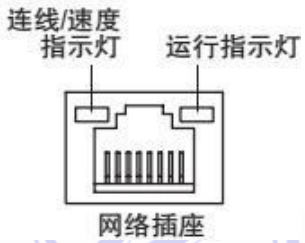
最高支持理论 480Mbps 速度传输，可向下兼容 USB1.1 标准。用于连接 USB TYPE A 设备。

F：双层 USB2.0 TYPE A 接口

最高支持理论 480Mbps 速度传输，可向下兼容 USB1.1 标准。用于连接 USB TYPE A 设备。

G：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

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。