

MS-Challenger B760ITX D5

Manual

VER:A0

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Editing Department: Technology Department

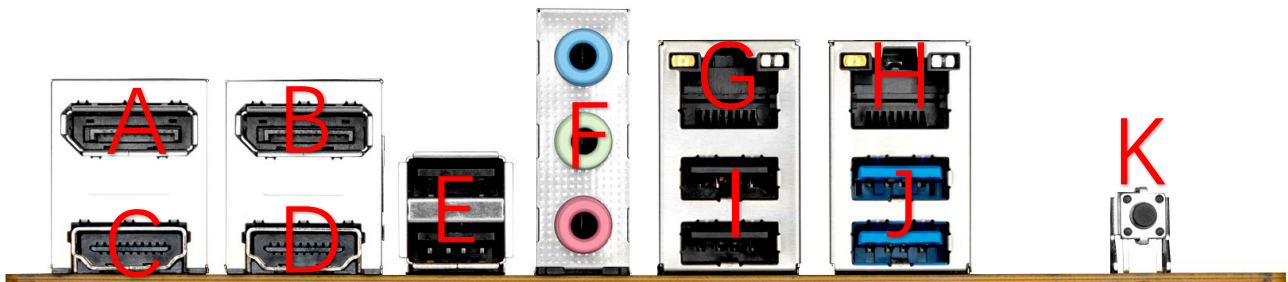
Specifications

1.1. Motherboard hardware specifications

Motherboard Size	Mini-ITX(170*170mm)
CPU	Supports LGA1700 slot Intel® 14th, 13th, 12th Processors 8+1 phase power supply; TDP: PL1 168W; PL2 241W
Chipset	Intel® B760 High Speed Chipset
RAM	2* DIMM DDR5 memory slots Maximum capacity 96GB Supports dual-channel memory technology Supports 4800Mhz/XMP/OC memory frequencies
Display	Shared display memory technology based on display capabilities with integrated graphics processor 2* DP1.4 display ports supporting up to 4096x2160@60Hz resolution 1* HDMI 2.0 display interface, support up to 4096x2160@60Hz resolution 1* HDMI 1.4 display interface, support up to 4096x2160@30Hz resolution
Extended Interface	1* PCIEX16 5.0 slot Supports AMD and NVidia discrete graphics cards
Audio	Integrated REALTEK ALC897 HD Audio Codec
Network	1* Realtek RTL8125BG 2.5G LAN 1* INTEL i219V 1Gb LAN 1* M.2_WIFI slot (KEY_E): supports PCIEx1/CNVio2/USB channel for installing wireless
SSD	1x M.2_SSD_A Front Socket M.2 slot with Gen4 x4 support 1x M.2_SSD_B backside slot M.2 slot with Gen4 x4 support 4x SATA 3.0 ports
USB	Onboard USB pins (5 ports total): 1* USB3.2 Gen2 Type-C (10G) front port 1* USB3.2 Gen1 (5G) connector pin, supports 2 additional USB3.2 Gen1 ports 1* USB 2.0 connector pin to support 2 additional USB 2.0 ports Rear USB ports (6 ports in total): 2* USB3.2 Gen1 Type-A (5G) ports 4* USB2.0 Type-A ports
In-board sockets	1* COM pin 3* sets of system fan pins, 1 set of CPU fan pins 1* set of chassis front control panel pins (F_PANEL) 1* set of front audio pins F_Audio 1* set of TPM_SPI pins, support external TPM2.0 module or SPI burn-in function (BIOS burn-in) 1* set of Debug pins

	1* set of CASE_OPEN pins 1* set of SPDIF pins 1* set of 5V_ARGB pins
Power	1* 24-PIN motherboard ATX power 1* 8-PIN motherboard ATX power
Hardware monitoring	Voltage monitoring Temperature monitoring Fan monitoring Intelligent fan speed control (supported by the 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 $\pm 8KV$ Class C $\pm 6KV$ Class B Contact discharge $\pm 6KV$ Class C $\pm 3KV$ Class B *Tested with the whole machine well grounded
Package	Single piece packaging weight:736.2g Packing quantity: 20PCS Outer box size:505(L)mm*425(W)mm*337(H)mm Full box gross weight: 16.8kg

1.2 Motherboard I/O interface function description



A: DP port

DP1.4 port, supports up to 4096x2160@60Hz resolution, for connecting to DP monitor port.

B: DP port

DP1.4 port, supports up to 4096x2160@60Hz resolution, for connecting to DP monitor port.

C: HDMI port

HDMI 2.0 port, supports up to 4096x2160 @60Hz resolution for connecting to HDMI monitor ports.

D: HDMI port

HDMI 1.4 port, supports up to 4096x2160 @30Hz resolution for connecting to HDMI monitor ports.

E: 2-layer USB 2.0 interface

Supports up to 480Mb theoretical transfer speed and is backward compatible with USB1.1 standard for connecting USB TYPE A devices.

F: Audio

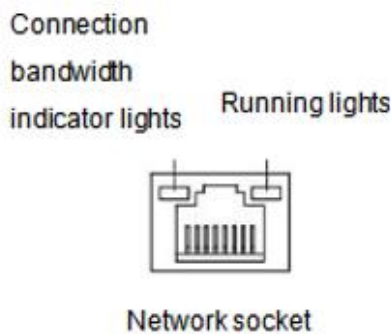
Audio-in connector (blue) for receiving audio input devices, such as cell phone audio input.

Audio-out connector (light green) for accessing audio output devices, such as headphones, speakers and other external amplification devices.

Audio-Microphone connector (pink) for accessing audio input devices such as microphones and other radio devices.

G: Intel 1Gb LAN

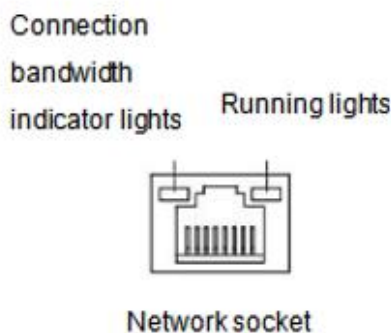
Network cable interface for accessing the network cable to connect the host system to the network.



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

H: Realtek 2.5Gb LAN

Network cable interface for accessing the network cable to connect the host system to the network.



Operation Indicator Light	
No data transmission	go out (of a fire etc)
during data transmission	vague (of speech)
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
2500Mbps	Orange color is always on

I: 2-layer USB 2.0 interface

Supports up to 480Mb theoretical transfer speed and is backward compatible with USB1.1 standard for connecting USB TYPE A devices.

J: Layer 2 USB3.2 GEN1 Type-A connector

Supports up to 5Gb theoretical transfer speed and is backward compatible with USB 1.1 standard for connecting USB TYPE A devices.

K: CLR_CMOS shortcut button.



SHANGKE GROUP

MS-Challenger B760ITX D5

使用手册

VER:A0

编辑时间：2024 年 02 月 28 日

编辑部门：商科集团技术部

第一章 规格

1.1、主板硬件规格

主板尺寸	Mini-ITX (170*170mm)
CPU	支持 LGA1700 插槽 Intel®第 14th、13th、12th 处理器 8+1 相供电; TDP: PL1 168W; PL2 241W
芯片组	Intel®B760 高速芯片组
内存	2 个 DIMM DDR5 内存槽 最大容量 96GB 支持双通道内存技术 支持 4800MHz/XMP/OC 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 2 个 DisplayPort1.4 显示接口, 最高支持 4096x2160@60Hz 分辨率 1 个 HDMI2.0 显示接口, 最高支持 4096x2160@60Hz 分辨率 1 个 HDMI1.4 显示接口, 最高支持 4096x2160@30Hz 分辨率
扩展接口	1 个 PCIEX16 5.0 插槽 支持 AMD 和 NVidia 独立显卡
音频	集成 REALTEK ALC897 高清音频编解码器
网络	1×Realtek RTL8125BG 2.5G Ethernet 接口 1×INTEL i219V 1Gb Ethernet 接口 1×M.2_WIFI 插槽 (KEY_E): 支持 PCIe×1/CNVio2/USB 通道, 用于安装无线网卡
存储	1×M.2_SSD_A 正面插槽 M.2 插槽, 支持 Gen4 x4 1×M.2_SSD_B 背面插槽 M.2 插槽, 支持 Gen4 x4 4×SATA 3.0 接口
USB	板载 USB 插针 (共 5 个接口): 1×USB3.2 Gen2 Type-C (10G) 前置接口 1×USB3.2 Gen1 (5G) 接针, 支持 2 个额外的 USB3.2Gen1 接口 1 个 USB2.0 接针, 支持 2 个额外的 USB2.0 接口 后置 USB 接口 (共 6 个接口): 2×USB3.2 Gen1 Type-A (5G) 接口 4×USB2.0 Type-A 接口
板内插座	1 个 COM 插针 3 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) 1 组前置音频插针 F_Audio 1 组 TPM_SPI 插针, 支持外接 TPM2.0 模块或 SPI 烧录功能 (BIOS 烧录) 1 组 Debug 插针 1 组 CASE_OPEN 插针 1 组 SPDIF 插针 1 组 5V_ARGB 插针

电源输入	1 个 24PIN 主板 ATX 供电接口 1 个 8PIN 主板 ATX 供电接口
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	单片彩包重量: 736. 2g 装箱数量: 20PCS 外箱尺寸: 505 (L) mm*425 (W) mm*337 (H) mm 满箱毛重: 16. 8kg

1.2、主板后置接口



A: DP 接口

DP1.4 接口，最高支持 4096x2160@60Hz 分辨率，用于连接 DP 显示器接口。

B: DP 接口

DP1.4 接口，最高支持 4096x2160@60Hz 分辨率，用于连接 DP 显示器接口。

C: HDMI 接口

HDMI2.0 接口，最高支持 4096x2160 @60Hz 分辨率，用于连接 HDMI 显示器接口。

D: HDMI 接口

HDMI1.4 接口，最高支持 4096x2160 @30Hz 分辨率，用于连接 HDMI 显示器接口。

E: 2 层 USB2.0 接口

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

F: 音频插孔

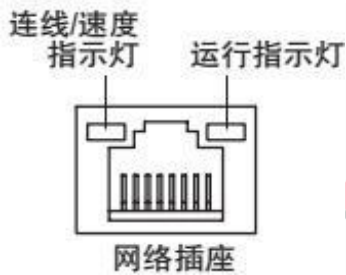
Audio-in 接口 (蓝色), 用于接收音频输入设备, 如手机音频输入。

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。

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。

G: 英特尔 1Gb Ethernet 接口

网线接口, 用于接入网线将主机系统连接到网络。

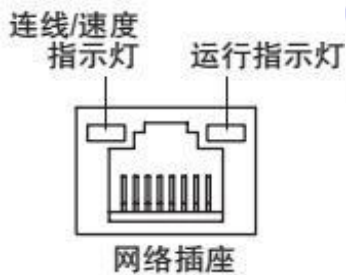


连接带宽指示灯	
带宽	灯状态
无连接	灭
10Mbps	灭
100Mbps	绿色常亮
1000Mbps	橙色常亮

运行指示灯	
无数据传输	灭
数据传输中	闪烁

H: Realtek 2.5Gb Ethernet 接口

网线接口, 用于接入网线将主机系统连接到网络。



连接带宽指示灯	
带宽	灯状态
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2500Mbps	橙色常亮

运行指示灯	
无数据传输	灭
数据传输中	闪烁

I: 2 层 USB2.0 接口

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

J: 2 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。

K: CLR_CMOS 快捷按钮