

MS-Terminator Z790-A

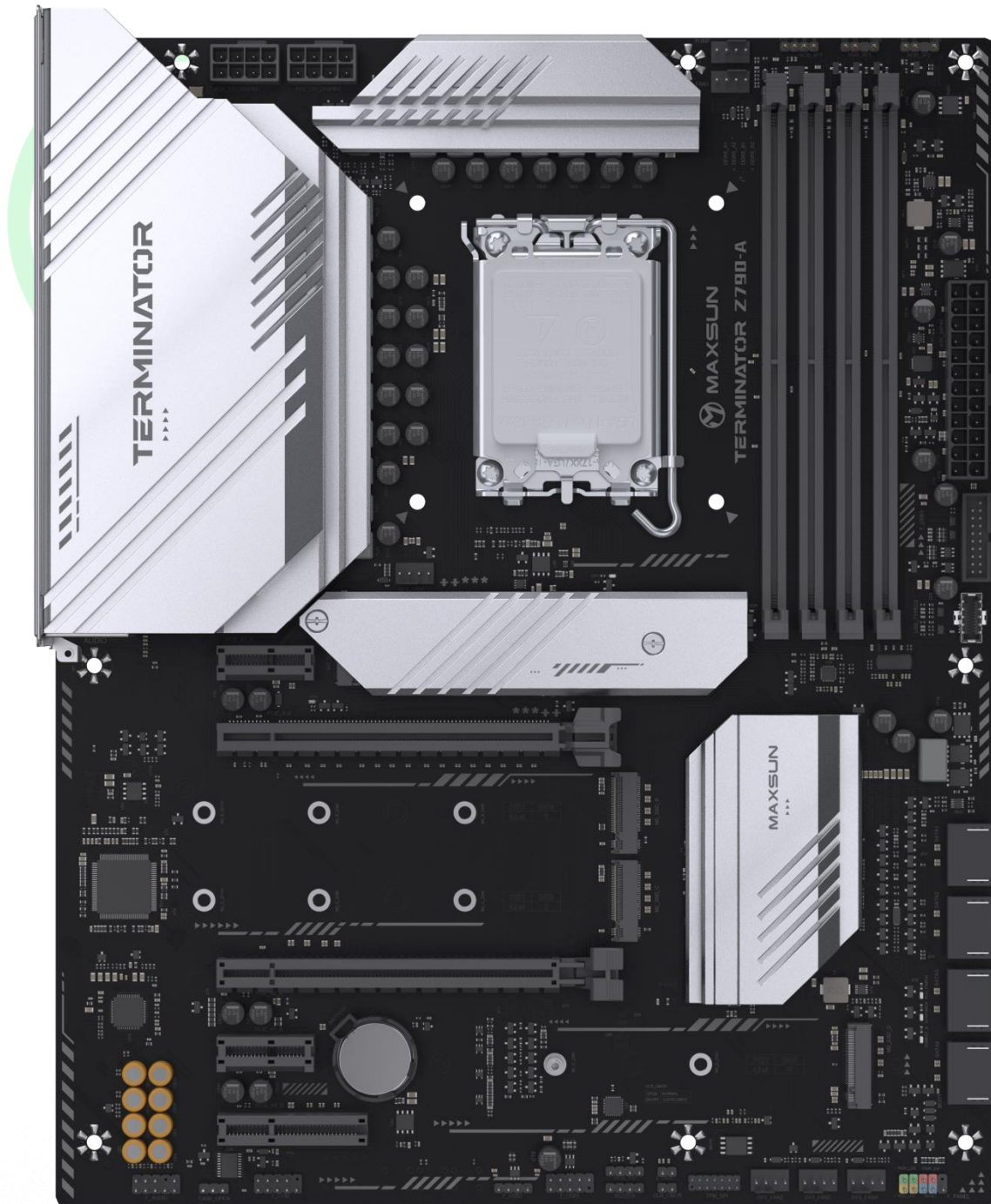
Manual

VER:A1

Edited on 12/9,2024

Editing Department: Technology Department

Part 1 Layout



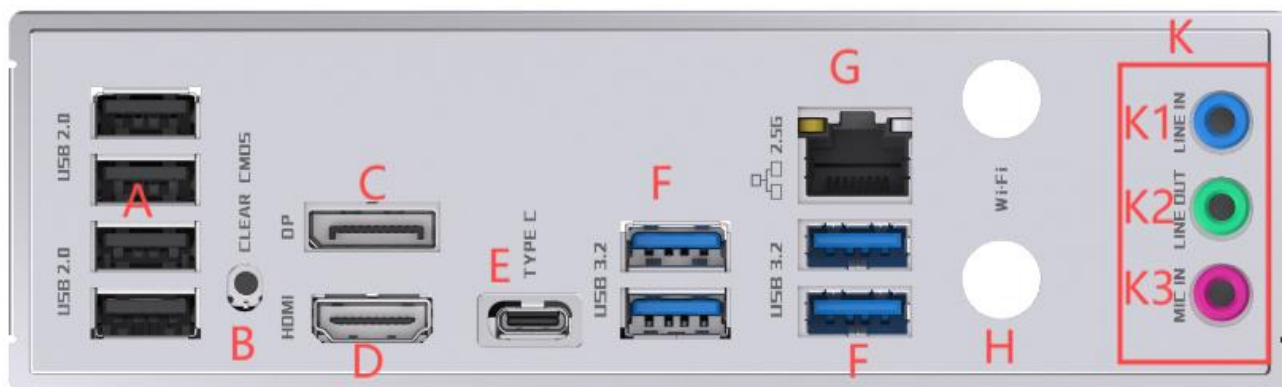
(This drawing is for reference only, some details will be adjusted according to the actual situation, please refer to the actual design, our company reserves the right to explainP

Part 2 Specification

Size	ATX(248*305mm)
CPU	Supports LGA1700 slots Intel 12th, 13th, and 14th processors TDP: 253W
Chipset	Intel®Z790
Memory	4 DIMM DDR5 memory slots Up to 192GB is supported Supports dual-channel memory technology 4800/5600/6400/7200/OC Memeroy memory frequency (Memory slots 2 and 4 are recommended)
Display	Based on the display function of integrated graphics card processor, it adopts the shared display memory technology 1 HDMI1.4 port, up to 4096x2160@30Hz resolution (support HDCP2.2) 1 DP1.4 interface with a maximum resolution of 4096x2160@60Hz
Extension interface	1 PCIeX16 5.0 slot 1 PCIeX4 4.0 full-length slot 1 PCIeX4 3.0 open slot 2 PCIeX1 3.0 slots Supports AMD, Nvidia, Intel independent graphics cards PCIe resizable bar technology (CPU and graphics card support)
Audio	Integrated REALTEK ALC897 sound card chip Support simultaneous output of front and rear channels (need to be set in the HD audio controller) Rear audio port: 1 rear onboard LINE IN port, 1 rear onboard LINE OUT port, and 1 rear onboard MIC_IN microphone port. F_AUDIO pins: 1 set of front microphone pins, 1 set of front audio output pins (These two pins are F_Aduio pins) 1 set of 4-pin SPEAKER pins
Network	Integrated REALTEK RTL8125BG NIC chip (10/100/1000/2500Mbit) 1 on-board RJ45 port 1 M.2_WIFI wireless NIC interface Support network wake up Supports PXE diskless boot and UEFI diskless boot
Storge	1 M2.A slot (Support only 2242/2260/2280 PCIE4.0/3.0X4 /X2 channel SSD) 1 M2.B slot (Support only 2242/2260/2280/22110 PCIE4.0/3.0X4 /X2 channel SSD) 1 M2.C slot (Support only 2242/2260/2280/22110 PCIE4.0/3.0X4 /X2 channel SSD) 1 M2.D slot (Support 2242/2260/2280/22110 PCIE4.0/3.0X4 /X2 channel and SATA channel SSD) 4 SATA3.0 ports
USB	Rear onboard rear interface: 4 USB3.2GEN1 (5G) interfaces, 4 USB2.0 interfaces, and 1 Type-C USB3.2GEN2x2 (20G) interface Front board pins: 1 set (2) USB2.0 pins, 1 set (2) USB3.2GEN1 (5G) pins, 1 Type-C USB3.2GEN2x2 (20G) interface

Inboard socket	1 24PIN motherboard ATX power supply port 2 8PIN motherboard ATX 12V power ports with 12V input One COM_A pin 5 sets of SYS_FAN pins and 1 set of CPU_FAN pins (all support intelligent fan regulation) 1 rear CLEAR_CMOS button 1 RGB_BTN button 1 POWER_BTN button 1 RESET_BTN button 1 TPM pin (also supports burning) 2 3PIN 5V RGB light pins 1 4-pin 12V RGB light pin 1 set of 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	Supports Windows10 64bit and Windows11 64bit Support Ubuntu 64bit
ESD protection	Supports Windows10 64bit and Windows11 64bit Support Ubuntu 64bit
Packing size & weight	Color box size :349*280*66mm Net weight: 1.22kg Gross weight :1.75kg Packing box size :578*370*365mm FCL weight :19.2kg

Part 3 Rear IO of motherboard



A: USB2.0 interface

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

B: CLEAR_CMOS button

Before you perform this operation, ensure that the AC power is off and hold down the button for 8 seconds to clear the CMOS information on the mainboard.

C: DP interface

DP1.4 interface, the highest resolution support 4096x2160@60Hz, used to connect to the DP display interface.

D: HDMI port

HDMI1.4 port, the maximum resolution is 4096x2160@30Hz (support HDCP2.2), used to connect to the HDMI display port.

E: TYPE-C interface

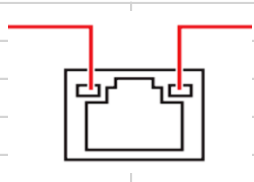
Supports up to 20Gb theoretical speed transfers for connecting TYPE-C devices.

F: USB3.2 GEN1 interface

Supports up to 5Gb theoretical speed transfers and is backward compatible with the USB2.0 standard for connecting USB TYPE A devices.

G: RJ45 port

The network cable port is used to connect the host system to the network. The maximum bandwidth is 2.5Mbps.

Activity Link LED			Speed LED	
Status	Description		Status	Description
Off	No link		Off	10Mbps connection
Yellow	Linked		Green	100Mbps connection
Blinking	Data activity		Orange	1000Mbps/2.5Gbps connection

H: Reserve the WIFI antenna port

The mainboard reserves the M.2_WIFI wireless NIC port, and the I/O port is reserved for the WIFI antenna port.

K1: Audio-in interface (blue)

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

K2: Audio-out interface (light green)

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

K3: Audio- Microphone port (pink)

It is used to access audio input devices such as microphones.



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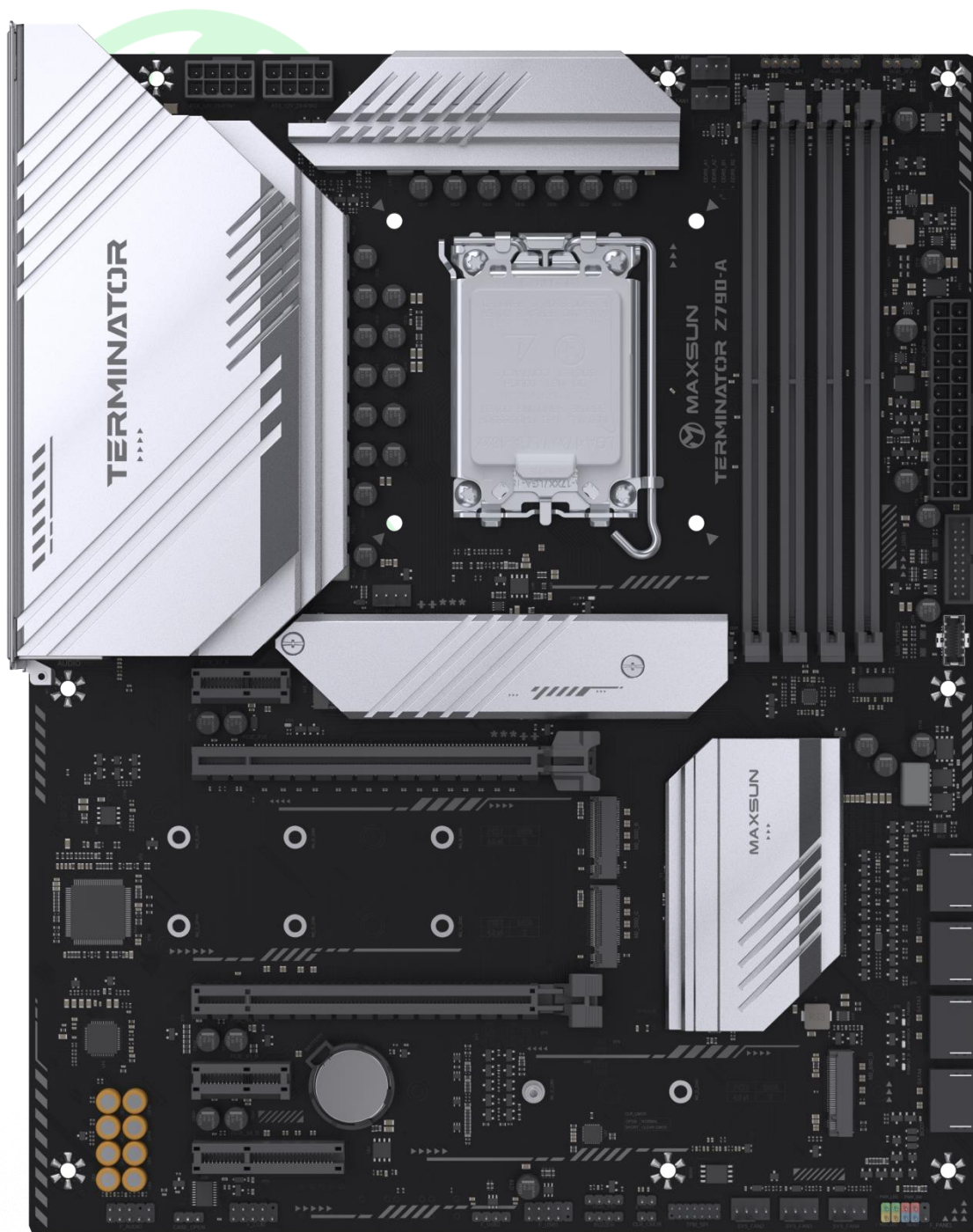
使用手册

VER:A0

编辑时间：2024 年 9 月 12 日

编辑部门：商科集团技术部

第一章 主板配置图



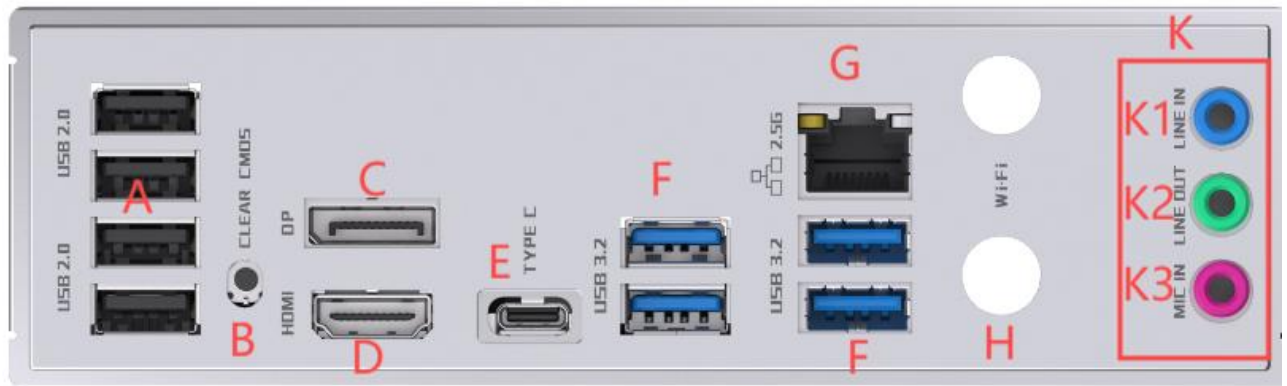
（此图仅供参考，部分细节会根据实际情况设计调整，请以实物为准，我司保留解释权）

第二章 规格

2.1、主板硬件规格

主板尺寸	ATX(305*245mm)
CPU	支持 LGA1700 插槽 第 12、13、14 代处理器 TDP: 253W
芯片组	Intel®Z790 高速芯片组
内存	4 个 DIMM DDR5 内存槽(请优先插第二、第四两条插槽) 最高支持共 128GB 支持双通道内存技术 支持 4800/5600/OC+Memory 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 4096x2160@30Hz 分辨率 (支持 HDCP2.2) 1 个 DP 接口, 最高支持 4096x2160@60Hz 分辨率
扩展接口	1 个 PCIeX16 5.0 插槽 1 个 PCIeX4 4.0 插槽 1 个 PCIeX4 3.0 插槽 2 个 PCIeX1 3.0 插槽 支持 AMD、NVIDIA、INTEL 独立显卡
音频	集成 REALTEK 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) 后置配备 3 个音频接口: 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	集成 REALTEK8125BG 网卡芯片(10/100/1000/2500Mbit) 1 个板载 RJ45 接口 支持网络唤醒 支持 PXE 无盘、UEFI 无盘引导、Legacy 无盘引导
存储	2 个 M.2 插槽 (M2_SSD_B/C 支持 2242/2280/22110 PCIE X4/X2 通道 SSD) 1 个 M.2 插槽 (M2_SSD_A 支持 2242/2280/ PCIE X4/X2 通道 SSD) 1 个 M.2 插槽 (M2_SSD_D 支持 2242/2280/22110 PCIE X4/X2/SATA 通道 SSD) 4 个 SATA3.0 接口
USB	板载后置接口: 4 个 USB3.2 GEN1 接口, 4 个 USB2.0 接口, 1 个 Type-C (20Gbps) 接口 板内插针: 1 个 4PIN 的 USB2.0 插针, 1 个 9PIN 的 USB2.0 插针, 1 个 (16PIN) USB3.2 GEN1 插针, 1 个 Type-C (20Gbps) 插座
板内插座	1 个 24PIN 主板 ATX 供电接口 2 个 8PIN 主板 ATX 12V 供电接口, 12V 输入 4 组系统风扇插针、1 组 CPU 风扇插针、1 组 Pump 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
其他	2 个 3PIN 支持防呆 5V ARGB 灯插针 1 个 4PIN 12V NRGB 灯插针 1 组 2PIN CLR_CMOS 插针和后置 CLR_CMOS 按钮一个 1 组 TPM 插针 1 组 COM 插针 1 组 2PIN 的 CASE_OPEN 插针 1 组 DEBUG 插座
包装尺寸及重量	彩盒尺寸：349*280*66mm 单板重量：1.22kg 单片彩包重量：1.75kg 外箱尺寸：578*370*365mm 整箱重量：19.2kg



A：四层 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。

B：CLR_CMOS 按钮

一键清除主板 BIOS 功能设置，还原主板 BIOS 默认初始化设置。

C：DP 接口

最高支持 4096x2160@60Hz 分辨率，可支持声像同时输出。

D：HDMI 接口

最高支持 4096x2160@30Hz 分辨率，可支持声像同时输出。

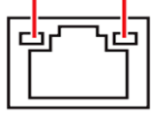
E: USB3.2 GEN2x2 TYPE C 接口

最高支持理论 20GB 速度传输。用于连接 USB TYPE C 设备。

F: 四层 USB3.2 GEN1 接口

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

G: RJ45 网线接口，用于接入网线将主机系统连接到网络，最高带宽 2500Mbps。

运行指示灯			速度指示灯	
状态	描述		状态	描述
关闭	无链接		关闭	10Mbps 连接
黄色	已链接		绿色	100Mbps 连接
闪烁	数据传输		橙色	1000Mbps/2.5Gbps 连接

H:WI-FI 天线

WI-FI 无线网卡天线预留孔，用户可自主 DIY 配备网卡模块。

K1: Audio-in 接口(蓝色)

用于接收音频输入设备，如手机音频输入。

K2: 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。

K3: 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。