# **CVN B560M GAMING PRO V20**

# **CVN B560M GAMING FROZEN V20**

# 主板使用手册

www.colorful.cn

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产品有毒有害物质或元素标识:

产品中有毒有害物质或元素的名称及含量

部件名称			毒有害物质或元素			
	铅 (Pb)	汞(Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB板	×	0	0	0	0	0
结构件	0	0	0	0	0	0
芯片	0	0	0	0	0	0
连接器	0	0	0	0	0	0
被动电子元器件	0	0	0	0	0	0
焊接金属	0	0	0	0	0	0
线材	×	0	0	0	0	0
助焊剂,散热膏,	0	0	0	0	0	0
标签以及其他耗 材						

○:表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规 定的限量要求以下。

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备注:×位置的铅的含量超出ST/T11363-2006标准规定的限量要求,但符合欧盟RoHS 指令的豁免条款。

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如果您的系统出现问题,并且无法从本主板使用手册中获得帮助,请联系您所购买 主板的经销商。此外您还可以尝试通过以下方式获得帮助:

访问七彩虹的官方网站(http://www.colorful.cn/)获取产品和驱动程序等信息 支持,还可以登录七彩虹官方论坛(http://bbs.colorful.cn),获取技术指导。 通过拨打 400-678-5866 客户服务热线进行咨询,此外还可以直接与七彩虹各属地 平台服务中心联系,具体联系方法如下:

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平台名称	服务范围	联系方法
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中部大区	江苏省、浙江省、安徽省、上海市、 湖北省、湖南省、江西省	027-87873911(武汉区域) 025-86817950(华东区域)
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西北大区	陕西省、甘肃省、青海省、新疆维吾 尔自治区、宁夏回族自治区	029-87877278
注意:以上电话如有变动,请拨打 400-678-5866 服务热线查询。		

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产品包装

感谢您购买七彩虹主板,该主板提供了非常优越的性能和品质保证,在您打开本主板 包装盒之后,请马上检查下面所列出的各项标准配件是否齐全。

- □ 1 块 CVN B560M GAMING PRO V20/CVN B560M GAMING FROZEN V20 主板
- 3 条 SATA 数据线
- □ 1 张驱动光盘
- 1片后置面板 IO 档板



<mark>注意</mark>:以上配件仅供参考,请以实物为准,七彩虹科技保留修改的权利。

Note: 若以上列出的任何一项配件有损坏的情形,请尽快与您的经销商联络 或致电七彩虹客服。

注意: 产品规格/CPU 支持/产品附件以产品发布之时为准。

第一章 简介

感谢您购买七彩虹主板,该主板提供了非常优越的性能和品质保证。

### 1-1 主板特色

CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20 主板采用 Intel B560芯片组,支持IntelLGA120011代及10代系列处理器,支持DDR4-3200/ 2933/2666/2400 MHz 规格内存, Intel 11代 CPU 支持 PCI Express 4.0 规范。

主板提供 4 个 DDR4 内存条插槽,支持 XMP 内存。1 个 HDMI 接口、1 个 DP 接口、6 个 SATA 3.0 接口、2 个 USB 3.2 Gen2x1(1\*Type-C+1\*Type-A)、4 个 USB 3.2 Gen 1、 4 个 USB 2.0、板载八声道声卡,性能强劲,是性价比的终极选择!

主板提供 1 个 PCI Express 4.0/3.0 x16 插槽、1 个 PCI Express 3.0 x4 插槽、1 个 PCI Express 3.0 x1 插槽、2 个 M.2 SSD 插槽,1 个 CNVI WIFI/BT 模块及插槽(仅 CVN B560M GAMING FROZEN V20 主板上拥有) 扩展模式丰富,扩展性能强劲。

### 1-2 主板规格

- 🗋 设计
  - ▶ mATX 板型规范
- 🔲 芯片组
  - ▶ 主板采用 Intel B560 高速芯片组
- 中央处理器
  - 支持 Intel LGA1200 11 代及 10 代系列处理器
- □ 内存
  - 第十一代 Intel Core i9/i7/i5 处理器: 支持 DDR4 3200/3000/2933/2666/2400/2133 MHz
  - 第十代 Intel Core i9/i7 处理器: 支持 DDR4 2933/2666/2400/2133 MHz
  - 第十代 Intel Core i5/i3/Pentium/Celeron 处理器: 支持 DDR4 2666/2400/2133 MHz
  - ▶ 4 个 DDR4 DIMM 插槽,可支持高达 128 GB (单一插槽支持 32 GB 容量)
  - ▶ 支持 Extreme Memory Profile (XMP)内存
  - > 支持双通道内存及内存超频技术
  - 温馨提示:内存超频频率还取决于搭配 CPU 和内存本身超频性能,详细 请至七彩虹网站查询有关支持的内存条速度及列表

#### □ 扩展插槽

- 1个 PCI Express 4.0/3.0 x16 插槽
- > 1个 PCI Express 3.0 x4 插槽
- 1个 PCI Express 3.0 x1 插槽
- ▶ 2个M.2 SSD 插槽
- 1个无线 CNVI WiFi /BT 模块插槽(仅 CVN B560M GAMING FROZEN V20 主板上拥有)
- 🗋 存储设备
  - ▶ 主板提供 6 个 SATA 3.0 6Gb/s 硬盘接口
- 🗋 音频设备
  - ▶ 采用8声道声卡

### USB 接口

- ➢ 主板提供 4 个 USB 2.0 (含扩展)
- 4 个 USB 3.2 Gen 1 接口(含扩展)
- 2个USB 3.2 Gen 2x1 接口 (1\*Type-A+1\*Type-C)
- 除 Type-C 一组 USB 接口不支持关机带电以外,其他 USB 接口支持关机带电功能(关机带电功能,可在 BIOS 选项里面设置!)
- 🔲 板载连接头/跳线/按钮
  - 1个USB 3.2 Gen 1 扩展插针(FUSB3)
  - > 1个USB 2.0 扩展插针(FUSB1)
  - 1个 CPU 风扇插座(CPU\_FAN)
  - 3 个系统风扇插座(CHA\_FAN1、CHA\_FAN2、CHA\_FAN3)
  - 1个水泵风扇插针(AIO\_PUMP)
  - 2个12V4-pin RGB风扇/灯带插针(FAN\_12V\_RGB1、FAN\_12V\_RGB2)
  - > 2个5V3-pin RGB风扇/灯带插针(FAN\_5V\_RGB1、FAN\_5V\_RGB2)
  - ▶ 1个前置音频接口插针(F\_AUDIO1)
  - ▶ 1个前面板开关机和指示灯插针(F\_PANEL1)
  - 1 个清 CMOS 跳线(CLR\_CMOS)
  - 1 个喇叭插针(SPEAK1)
  - ▶ 1个跳帽插针(JME1)
  - 1 个烧录插针(JBIOS1)
  - ▶ 1个串行设备连接头插针(JCOM1)
  - 1 个诊断卡插针(ESPI\_HEADER1)
  - 1个 PS2 鼠标/键盘唤醒跳线(JKB1)

简介

## 1-3 主板局部图



## **CVN B560M GAMING PRO V20**

(仅供参考)

# 1-3 主板局部图



### **CVN B560M GAMING FROZEN V20**

(仅供参考)

主板布局图介绍:	
1、LGA1200 接口处理器脚座	2、DDR4 内存条插槽
3、显卡插槽	4、电源连接器
5、M.2 SSD 插槽	6、SATA3.0 6Gb/s 硬盘插座
7、CNVI WiFi /BT 模块及插槽 (仅 CVN B560M GAMING FROZEN V20 主板上拥有)	8、USB 3.2 Gen 1 扩展插针
9、USB 2.0 扩展插针	10、CPU 风扇插座
11、系统风扇插座	12、12V 4-pin RGB 风扇插针
13、5V 3-pin RGB 风扇插针	14、前置音频插针
15、前面板开关机/重启/指示灯插针	16、CMOS 清除插针
17、喇叭插针	18、跳帽插针
19、烧录器插针	20、串行设备连接头
21、诊断卡插针	22、PS/2 鼠标/键盘唤醒跳线
23、水泵插针	

第二章 硬件安装

请参照以下步骤,完成电脑的安装:

- □ 安装中央处理器(CPU)
- ❑ 安装内存
- ❑ 装入机箱
- ❑ 安装所有扩展卡
- □ 连接所有讯号线、排线、电源线及面板控制线

### 2-1 基本硬件安装

中央处理器安装和风扇操作及说明

本主板具备一个 Socket 1200 处理器插槽,本插槽是专为 Intel10 代和 11 代 CPU 系列处理器所设计。请扫图中 QR code 了解安装步骤:





### 内存条安装操作及说明

主板提供 4 个 DDR4 内存条插槽。请扫图中 QR code 了解安装步骤:

	nicentier nerve	EII DIW	M1
	in an	E DIM.	W2
		E DIM.	M3
		E DIM.	M4



## 2-2 连接器和引脚连接头

# 1 中央处理器插槽

主板提供 1 个 LGA1200 接口处理器脚座,支持 IntelLGA1200 11 代及 10 代系列 处理器。



# 2 DDR4 内存条处理器

主板提供 4 个 DDR4 内存条插槽。一条内存: 你可以插入到任何一个内存条插槽, 两条 内 存: 插入到 DIMM1 和 DIMM3 插槽,或 DIMM2 和 DIMM4 插槽,以组建 双通道,三条内存: 不要安插 3 条内存,可能会引起故障,四条内存: 插入到 DIMM1、DIMM2、DIMM3、DIMM4 插槽。可搭配使用 8GB,16GB,32GB 内存条, 单根支持 32GB 内存条,总内存容量最大支持 128GB



### CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20

- 第十一代 Intel Core i9/7/i5 处理器:
  支持 DDR4 3200/3000/2933/2666/2400/2133MHZ
- 第十代 Intel Core i9/i7 处理器:
  支持 DDR4 2933/2666/2400/2133 MHz
- 第十代 Intel Core i5/i3/Pentium/Celeron 处理器:
  支持 DDR4 2666/2400/2133 MHz
- 4 个 DDR4 DIMM 插槽,可支持高达 128 GB (单一插槽支持 32 GB 容量)
- 支持 Extreme Memory Profile (XMP)内存
- 支持双通道内存及内存超频技术

● 温馨提示:内存超频频率还取决于搭配 CPU 和内存本身超频性能,详细请至 七彩虹网站查询有关支持的内存条速度及列表



主板提供 1 个 PCI Express 4.0/3.0 x16 插槽,1 个 PCI Express 3.0 x4 插槽,用 于安装显卡.



- 需搭配 11 代 CPU 方可达到 4.0 速度。
- 内存超频频率还取决于搭配 CPU 和内存本身超频性能。

构建 AMD CrossFire™系统

1、主板提供2个PCI Express插槽,支持2-Way AMD CrossFire™技术。请参照下 列方法构建AMD CrossFire系统。

- □ 系统需求
- 操作系统 Windows10
- 🛄 🛛 具备相同品牌、相同型号且支持 CrossFire 功能的显卡以及其驱动程序
- 电力足够的电源供应器
- 2、连接显卡
- 将显卡分别安装至主板上的 PCI Express x16 插槽。(注:若要构建 2-Way 系统,请将显卡安装在 PCIEX16 及 PCIEX4 插槽)
- 将 CrossFire 连接器两端的插槽分别插入显卡上缘的金手指部份。
- 将显示器的接口接至安装于 PCIEX16 插槽上的显卡。
- 3、设定显卡驱动程序
- 在操作系统中安装完显卡的驱动程序后,请启动 CrossFire 设定。
- □ 启动 CrossFire 设定:进入「AMD Catalyst Control Center」。浏览至「性能\AMD CrossFire™」画面,确认「启用 CrossFireX」已被选取。再选择您要使用的的 GPU 组合。

<mark>注意:</mark>启动 CrossFire 技术的步骤,可能会因不同显卡及驱动程序版本而异,详细 信息请参考显卡使用手册的说明。

4) 电源连接器: ATXPWR8P、ATXPWR24P

在与电源适配器相连时,请务必确认,电源适配器的接头安装方向正确,针脚对应 顺序也准确无误。

GND

NC

GND

GND

GND PS ON#

GND

-12VDC

+3.3VDC

+5VDC

+5VDC

+5VDC





如果要安装功率消耗较大的硬件设备,请使用高功率的电源。

# **⑤** M.2 SSD 插槽

主板提供 2 个 M.2 SSD 插槽,支持 2242/2260/2280 尺寸规格的 SSD,数据传输 率最高可达 32G b/s。Intel OPTANE 技术是 Intel 最新推出的非易失性存储技术, 是一种介于传统内存、固态硬盘之间,性能极高,延迟极低的技术。当使用 Intel OPTANE 技术时,M.2 SSD 插槽使用 Intel 专用 OPTANE SSD,安装WIN10 64 bit 系统和 RST 驱动,BIOS 设置中也要开启 Intel OPTANE 技术选项。

- 1.请用螺丝起子依序将螺丝和螺柱拆下,将实际要安装的 M.2 SSD 找到适合螺 丝孔位之后,先锁上螺柱。
- 2. 将 M.2 SSD 以斜角方式放入插槽。
- □ 3. 压住 M.2 SSD 之后,再将螺丝锁上。





M.2 丝印	支持协议
M2_KEYM1	Type2242/2260/2280 支持 PCIE GEN3 x4/SATA/OPTANE SSD
M2_KEYM2	Type 2242/2260/2280支持 PCIE GEN4 x4 SSD



# 6 SATA 端口连接器:

主板提供 6个 SATA 3.0 6Gb/s 硬盘接口。





<mark>注意:</mark> 当使用 M.2 SATA SSD 时 SATA6 端口不能使用,M.2 SATA 和 SATA6 端口共用带 宽时优先检测到 M.2 SATA SSD.

CNVI WIFI/BT 模块及插槽: (仅 CVN B560M GAMING FROZEN V20 主板拥有)

主板提供1个无线 CNVI WIFI/BT 模块及插槽,支持 2230 尺寸规格。





# 8 USB 3.2 Gen 1 扩展插针: FUSB3

主板提供 1 个 USB 3.2 Gen 1 扩展插针,可扩至 2 个 USB 3.2 Gen 1 接口。数据 传输速率最高可达到 5G bps,可向下兼容 USB 2.0 和 USB 1.1 设备。



9 USB2.0 扩展插针: FUSB1

主板提供1个USB2.0扩展插针,可兼容USB2.0和USB1.1设备。



硬件安装

# 10 CPU 风扇插座: CPU\_FAN

主板共提供1个风扇插座,用来降低 CPU 和系统的温度。



① 系统风扇插座: CHA\_FAN1、CHA\_FAN2、CHA\_FAN3

主板共提供3个风扇插座



12V 4-pin RGB 风扇/指示灯条插针: FAN\_12V\_RGB1、FAN\_12V\_RGB2



主板提供 2 个 12V 4-pin RGB 风扇/指示灯条插针



安装注意事项:安装时,RGB风扇/指示灯条上 12V 针脚与主板上的 12V 插针对齐。本主板 可支持灯效控制,请访问七彩虹网站(https://www.colorful.cn)下载灯控软件,调节灯 效模式。备注: RGB风扇/指示灯条为选购设备,请另行购买。

# 3 5V 3-pin RGB 风扇/指示灯条插针: FAN\_5V\_RGB1、FAN\_5V\_RGB2

主板提供 2 个 5V 3-pin RGB 风扇/指示灯条插针。





安装注意事项:安装时,RGB 风扇/指示灯条上 5V 针脚与主板上 5V 插针对齐。本主板可支 持灯效控制,请访问七彩虹网站(https://www.colorful.cn)下载灯控软件,调节灯效模 式。备注:RGB 风扇/指示灯条为选购设备,请另行购买。

### 14 前置音频接口连接: F\_AUDIO1

您可以在前置面板接口上连接一个音频接口, 它是和 I/O 前置面板连接规格兼容的。





PWR\_ON: ATX 电源开关。短接此引脚可以开机。

RST:重启开关。短接此引脚,不需要关闭系统电源即可重新启动计算机。

PWR\_LED:电源指示灯。当系统电源开启时,此灯会亮起。

HD\_LED: 硬盘指示灯。对硬盘进行数据存取时,此灯会亮起



CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20

# 16 CMOS 清除插针: CLR\_COMS

此跳线可以清除主板的 CMOS 资料(例如:日期及 BIOS 设定),回到出厂设定值。 如果您要清除 CMOS 资料,请使用跳线帽短接该跳线的两针脚数秒。





<mark>注意</mark>:清除 CMOS 资料前,请先关闭计算机并拔除电源线。2.清除 CMOS 资料后在启动计 算机前,请记得移除两针脚间的跳线帽,否则会造成主板的损坏。

(17) 喇叭插针: SPEAK1

主板提供1个喇叭连接头,它需要接到机箱的小喇叭上。



16

# 18 跳帽插针: JME1

主板提供 1 个跳帽插针,在 BIOS 界面里没有写保护的情况下请短接 ME 用于刷新 BIOS。



# 19 烧录器 BIOS 插针: JBIOS1

主板提供1个烧录器 BIOS 插针,在 DOS 和 BIOS 系统无法更新 BIOS 的情况下, 断电拔出 CPU,使用烧录器刷新 BIOS。



# 20 串行设备连接头: JCOM1

主板提供1个 COM 连接头,用来连接串口(COM)。将串口模组的排线连接至这个 插座,接着将该模组安装至机箱后侧面板空的插槽中。





主板调试接口,可以转接一个数码卡来分析主板问题故障。



### 22 PS/2 鼠标/键盘唤醒跳线: JKB1

PS2 端口下和 2 个 USB 接口支持关机带电功能,要开启 USB 带电功能,跳线帽应 该放置在 Pin2-3 针脚上,且 BIOS 选项中,需开启 S5 选项。要开启 PS2 鼠标/键 盘唤醒功能,跳线帽应该放置在 Pin2-3 针脚上,BIOS 设置中也要开启 PS2 鼠标/ 键盘唤醒功能。(PCB 板上白色丝印加粗旁的针脚,为跳线的第 1 针脚)



KB/MS Wake			
1/2	Disable		
2/3	Enable		

# 23 水泵插针: AIO\_PUMP

此插座用于连接一体式水冷 CPU 散热器水泵电源接头。



CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20

# 2-3 背板接口介绍

### CVN B560M GAMING PRO V20 IO 接口



- PS2 键盘鼠标插口\*1 ② USB 2.0 插口\*2 ⑧ DP 插口\*1 ④ HDMI 插口\*1
- 😉 USB 3.2 Gen2x1 Type-A 插口 🛛 USB 3.2 Gen2x1 Type-C 插口
- 🔽 网卡\*1 插口 🗿 USB 3.2 Gen 1 插口\*2 🗿 8 声道卡

CVN B560M GAMING FROZEN V20 IO 接口



- PS2 键盘鼠标插口\*1 ② USB 2.0 插口\*2 ③ DP 插口\*1 ④ HDMI 插口\*1
- 🧿 USB 3.2 Gen 2x1 Type-A 插口 🛛 🗿 USB 3.2 Gen 2x1 Type-C 插口
- 🛿 网卡\*1 插口 🕄 USB 3.2 Gen 1 插口\*2 🛽 8 声道卡
- CNVIWIFI\*1(仅 CVN B560M GAMING FROZEN V20 主板上拥有)



# 第三章 驱动程序安装说明

插入七彩虹主板驱动程序安装光盘,安装程序会自动运行,弹出下面窗口。



(请以实物为准)

驱动光盘能自动检测主板所使用的芯片组型号、声卡型号、板载显卡型号或者板载 网卡型号,点击相应的按钮安装相应的驱动。

# 第四章 BIOS 设置

该章介绍如何通过 BIOS 设置来更改系统设置,详细内容请参考此章。

该章包含下列内容:

- BIOS 主界面
- 🔲 OC(超频设置)
- ❑ ADVANCED(高级设置)
- BIOS SETTING (升级 BIOS 设置)
- ❑ LANGUAGE(语言设置)
- EXIT(退出设置)

4-1 BIOS 主界面

本章提供了 BIOS Setup 程序的信息,让用户可以自己配置优化系统设置。

如下情形您需要运行 SETUP 程序:

注意: 1. 系统自检时屏幕上出现错误信息,并要求进入 SETUP 程序。2. 您想 根据客户特征更改出厂时的默认设置。

进入设定程序

在计算机启动时,BIOS 进入开机自检(Post)程序,自检程序是一系列固定在 BIOS 中的诊断程序,当自检程序执行完成后,如果遇到错误会显示出如下信息:

Press F1 to Run Setup Press F2 to Load default values and continue

(按"F1 "键即可进入 BIOS 设置界面,按"F2"键将载入默认值并进入系统 )。

当自检程序执行完成后,没有遇到错误如果你想进入 BIOS,请按 DEL 键,直到进入 BIOS 界面。

如果此信息在您做出反应前就消失了,您可以关机后再开机或按机箱上的 Reset 键, 重启您的电脑,也可以同时按下 <Ctrl> + <Alt>+<Delete> 来重启电脑。 BIOS 主界面

		BIOS操作按键	建	风扇信息及	2设 <u>置</u>
设置系 统时间		FUL OC ADVANCED BIOS SETTING	LANGUAGE	EXIT	
硬件 _ 信息	System Information Hode: On Stord AdMic 29 CPU: This Generative Control Total Memory: 1534 48 (2008) 805 Versien: 100-3020/17/22 Version Time: 2021/01/22	CPU Temperature:      +45 °C      F      CPU Voltage:      1.344 V        Wetherband temperature:      +25 °C      UM      Memory Voltage:      1.328 V	FAN PROFILE	GANG CANE	E sou
	DDAT State DMA 2 OAN DMA 2 OAN DMA 3 OAN DMA 4 OANAWAY \$132 MB 3667 MHz DMA 4 OANAWAY \$132 MB 3667 MHz PART Code Boot Priority	Child Statu) Market Statu Statu Energy Statu Energy Status Energy Status Energy	CPU FAN	40 60 80 1070	Setting
启动 设置	Windows Boot Manager (WTLL HBRPEKNOD  UETE Kingstonbaat Taveler J. BPMAP)  UETE Kingstonbaat Taveler J. BPMAP)  (Kingstonbast Taveler J. BPMAP)		EZ OC		Default Mode Performance Energy Save
	Copeper C2021 Annicas Wegetined Insourced Liz Print	fscreen F8 Optimized Default 19 BIOS操作按键	Save&Exit	超频设置	

### 控制键位

- 🔲 < ↑↓← → > 向前、后、左、右移动选项
- □ < Enter > 选定此选项
- < Esc > 退出菜单或者从子菜单回到主菜单
- □ < F8> BIOS 界面截屏
- □ < F9> 默认设置
- □ < F10> 保存并退出
- □ < F11> 高级模式
- ❑ 主板 BIOS 支持鼠标操作



BIOS 在不断升级,程序画面仅供参考,将可能与您所见的画面有所差异,如需 了解 BIOS 更新说明请扫图中 QR code.



# Chapter 5 English Introduction

### 5-1 Introduction

Thanks for purchasing Colorful motherboard which provides excellent performance and quality assurance.

**Package Contents** 

- 1\*CVN B560M GAMING PRO V20/CVN B560M GAMING FROZEN V20 Motherboard
- 3\* SATA 6Gb/s cables
- 1\* Driver/Utility disk
- 💶 🛛 1\* User's Manual
- 1\* I/O Panel shield



The package contents above are for reference only and subject to change without notice,specific please in kind prevail!

Colorful company reserves the finally explanatory rights.

#### 5-2 Motherboard Features

CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20 board based on Intel B560 chipset, support Intel LGA1200 11<sup>th</sup>and10<sup>th</sup> CPU support dua channel DDR4-3200/2933/2666/2400 MHz memory,support PCI Express 4.0 standard.

The motherboard has 4\*DDR4 memory slots,1\*HDMI port,1\*DP port, 2\*USB 3.2 Gen2x1 ports (1\*Type-A & 1\*Type-C) ,4\*USB 3.2 Gen 1 ports, 4\*USB 2.0 ports, 6\*SATA 3.0 ports,onboard 8-channel audio chipset, it's a Cost-effective motherboard!

The motherboard has 1\*PCI Express 4.0/3.0 x16 slot,1\*PCI Express 3.0 x4 slot,1\*PCI Express 3.0 x1 slot,2\*M.2 SSD slots,1\*CNVI WiFi/BT module (Only CVN B560M GAMING FROZEN V20), it had good extensibility and strong extension performance!

**Motherboard Specifications** 

- Form factor
  - MATX
- Chipset
  - Intel B560
- 🔲 CPU
  - > Support Intel LGA1200 10<sup>th</sup> &11<sup>th</sup> Generation Core Processor
  - Tips: when using 125W processor, please match the professional CPU cooling fan!

- Memory
  - The 11th generation Intel Core i9/i7/i5 processor
    Offer DDR4 3200/3000/2933/2666/2400/2133 MHz
  - The 10th generation Intel Core i9/i7 processor Offer DDR4 2933/2666/2400/2133 MHz
  - The 10th generation Intel Core i5/i3Pentium/Celeron processor Offer DDR4 2666/2400/2133 MHz
  - Offer 4 DIMM slots, support XMP memory
  - Support Extreme Memory Profile (XMP)
- Slots
  - 1\*PCI Express 4.0/3.0 x16 slot
  - > 1\*PCI Express 3.0 x4 slot
  - 1\*PCI Express 3.0 x1 slot
  - > 2\*M.2 SSD slots
  - > 1\*CNVI WiFi/BT module slot (Only CVN B560M GAMING FROZEN V20)
- Storage
  - 6\*SATA 3.0 6Gb/s ports
- 8-CH audio devices
  - > Onboard 8-channel audio chipset
  - Support 3D surround sound effect
- USB ports (include headers)
  - 4\*USB 2.0 ports
  - 4\*USB 3.2 Gen 1 ports
  - > 2\*USB 3.2 Gen 2x1 ports (1\*Type-A+ 1\*Type-C)
- Onboard header/jumper/button
  - 1\*USB3.2 Gen1 header (FUSB3)
  - > 1\*USB2.0 header (FUSB1)
  - > 1\*CPU Fan headers (CPU\_FAN)
  - 3\*System Fan headers (CHA\_FAN1、CHA\_FAN2、CHA\_FAN3)
  - > 1\*AIO Fan header (AIO\_PUMP)
  - > 2\*12V 4Pin RGB FAN headers (FAN\_12V\_RGB1、FAN\_12V\_RGB2)
  - > 2\*5V 3Pin RGB FAN headers (FAN\_5V\_RGB1、FAN\_5V\_RGB2)
  - > 1\*Front panel audio connector (F\_AUDIO1)
  - > 1\*System Panel connector (F\_PANEL1)
  - > 1\*Clear CMOS jumper (CLR\_CMOS)
  - > 1\*Speaker header(SPEAK1)
  - > 1\*JME header (JME1)
  - > 1\*BIOS header(JBIOS1)
  - > 1\*COM header (JCOM1)
  - > 1\*ESPI\_HEADER header (ESPI\_HEADER)
  - > 1\*PS2 header (JKB1)

### 5-3 Motherboard Layout



**CVN B560M GAMING PRO V20** 

#### 5-3 Motherboard Layout



# **CVN B560M GAMING FROZEN V20**

### CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20

Motherboard layout introduction:	
1、LGA1200 CometComet processors socket	2、DIMM4 slots
3、PCI Express slots	4、Power connector
5、M.2 SSD slots	6、SATA3.0 6Gb/s ports
6、CNVI WIFI/BT module slot (Only CVN B560M GAMING FROZEN V20)	8、USB 3.2 Gen1 header
9、USB 2.0 header	10、CPU Fan header
11、System Fan headers	12、12V4 pin RGB FAN headers
13、5V 3 pin RGB FAN headers	14、Front panel audio connector
15、Power on/power off button	16、Clear CMOS jumper
17、Speaker connector	18、JME header
19、JBIOS header	20、JCOM header
21、DEBUG header	22、PS/2 wake up header
23、AlO header	

### Hardware Installation

#### 5-4 Hardware Installatio

Please follow the following steps to complete the installation:

- Installing the CPU
- Installing the memory
- Loding case
- Installing all expansion card
- Connect all signal lines

### Installing the CPU&Fan

This motherboard has a Socket 1200 Processor slot designed for the Intel 10th / 11th Generation Core™ ProcessIntel.Please scan the QR code in the drawing to understand the installation steps:



### Installing the memory card

Offer 4 DDR4 memory card. Please scan the QR code in the drawing to understand the installation steps:

B		
	and a state of the	E DIMM2
14		EII DIMM3
<b>1</b> 4	aina a <mark>n</mark> hiarana ana	EII DIMM4



### 5-5 Connecting header

# 1 CPU slot

This motherboard has a Socket 1200 Processor slot designed for the Intel 10th / 11th Generation Core™ Process.





# DDR4 slots

This motherboard is equipped with 4 DDR4 memory slot, can be used with 8GB,16GB,32GB,64GB memory, a single 32GB memory support, the total memory capacity of the maximum support 128GB.



- The 11<sup>th</sup> generation Intel Core i9/7/i5 processor: Offer DDR4 3200/3000/2933/2666/2400/213MHZ
- The 10<sup>th</sup> Intel Core i9/i7processor: Offer DDR4 2933/2666/2400/2133 MHz
- The 10<sup>th</sup> Intel Core i5/i3/Pentium/Celeron processor: OfferDDR4 2666/2400/2133 MHz
- Offer 4 DIMM slots, support XMP memory
- Offer Extreme Memory Profile (XMP)
- Support Extreme Memory Profile (XMP)

• Warm prompt: memory overclocking frequency also depends on the match itself overclocking CPU and memory performance, details, please contact to seven web sites about the speed of memory chips of support and list

# **3** PCI Express Slots

Mother board support 1\*PCI Express 4.0/3.0 x16 slot, 1\*PCI Express 3.0 x4 slot for a graphics or video card.





• It takes 11 generations of CPU to achieve 4.0 speed. The frequency of memory overclocking also depends on the accompanying CPU and the overclocking performance of the memory itself Setting up AMD CrossFire™Configuration

This motherboard has three PCI Express 3.0 slots ,supports 2-Way AMD CrossFire™ technology.Please refer to the following methods to set up:

### A. System Requirements

- Windows 10 operating system
- CrossFire ready graphics cards of identical brand and chip and correct driver
- A power supply with sufficient power is recommended

### B. Connecting the Graphics Cards

- install CrossFiregraphics cards on the PCI Express x16 slots. (To set up a 2-Way configuration, we recommend installing the graphics cards on the PCIEX16 and PCIEX4 slots.)
- Insert the CrossFire (Note 2) bridge connectors in the CrossFire gold edge connectors on top of the cards.
- Plug the display cable into the graphics card on the PCIEX16 slot.

### Setting the Graphics Card Driver

- After installing the graphics card driver in the operating system, to enable Cross Fire function.
- CrossFire setting:Go into AMD Catalyst Control Center.Browse to the AMD CrossFire™ screen and ensure CrossFireX is enabled.Then select the GPU combination you want to use.



Caution: Procedure and driver screen for enabling CrossFire technology may differ by graphics cards and driver version. Refer to the manual that came with your graphics cards for more information about enabling CrossFire technology.

# ATX power connectors: ATXPWR8P、ATXPWR24P

These connectors are for an ATX power supply. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.





Caution: if you install high power hardware equipment, please use high power supply.

**5** M.2 SSD slots





### CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20

The motherboard has two M.2 SSD slots, Both of them all support 2242/2260/2280 size SSD, the Data transmission rate is up to 32Gb/s.

Intel OPTANE technology is the latest non-volatile storage technology of Intel. It is a technology between high performance and low latency between traditional memory and solid state hard disk. When using Intel OPTANE technology, the M.2 slot uses Intel dedicated OPTANE SSD, and is equipped with the latest processor, installing WIN10 64 bit system and RST driver. In BIOS setting, we also need to open the Intel OPTANE technology option.

Please install M.2 SSD correctly in the slot following the following steps:

1. please use a screwdriver to remove the screws and studs in order, and then lock the stud first when the actual M.2 SSD is found to be suitable for the screw hole position.

2. insert the M.2 SSD into the slot in a inclined angle.

3. press M.2 SSD, then lock the screw.



#### (6) Serial ATA 3.0 6Gb/s connectors: SATA1-6

These connectors connect to Serial ATA 3.0 6Gb/s hard disk drives and optical drives via Serial ATA 3.0 6Gb/s signal cables.





When the M.2 SATA SSD is used, the M.2 SATA SSD and the M.2 SATA SSD share bandwidth.

# **O CNVI WIFI/BT module & slot:** (only CVN B560M GAMING

### FROZEN V20)

The motherboard has one CNVI WIFI/BT module slot, support 2230 size CNVI WiFi/BT module.





This connector is for USB 3.2 devices. These USB connectors can up to 5Gb/s connection speed, can be downwards compatible with USB 2.0/1.1 devices.



## 9 USB 2.0 connector: FUSB1

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with the USB 2.0 specification that supports up to 480Mbps connection speed.





Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.





## 🕦 System fan headers: cha\_fan1、cha\_fan2、cha\_fan3

Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.





The motherboard provides two 12V RGB fan headers. This motherboard can support light efficiency control. Please visit the website of rainbow seven (https://www.colorfull.cn) to download relevant light control software to adjust the light efficiency mode.



# **13** 5V 3-pin RGB headers: fan\_5v\_rgb1, fan\_5v\_rgb2

The motherboard provides three 5V RGB fan headers. This motherboard can support light efficiency control. Please visit the website of rainbow seven (https://www.colorfull.cn) to download relevant light control software to adjust the light efficiency mode.



### **14** Front panel audio connetor: F\_AUDIO1

This connector is for a chassis-mounted front panel audio I/O module that supports either High Definition Audio or AC`97 audio standard. Connect one end of the front panel audio I/O module cable to this connector.



# **15** System panel connector: F\_PANEL1

This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.



# **16** Clear CMOS Jumper: CLR\_CMOS1



There is a CMOS RAM on board that has a power supply from external battery to keep the system configuration data. With the CMOS RAM, the system can automatically boot OS every time it is turned on. If you want to clear the system configuration, use the CLR\_CMOS Jumper to clear data.

### CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20

Clear CMOS procedure:

You can clear CMOS by shorting 1-2 pin. Before you clearing the CMOS, following next procedure:

1. Turn off the AC power supply and connect pins 1 and 2 together using the jumper cap.

2、Return the jumper setting to normal (pin 1 or 2) or Remove the jumper cap

3、Turn the AC power supply back on.

# **17** SPEAK header: SPEAK1



This SPEAK header is for Speaker serial devices



# **18** ME header: JME1

Motherboard provides a jump pin, in the BIOS interface in the case of no write protection, please short ME, refresh BIOS.



# (19) BIOS header: JBIOS1

The motherboard provides a burning device BIOS pin, in the case of DOS and BIOS system can not update the BIOS, power out the CPU, using the burning device to refresh the BIOS.





## (20) COM header : JCOM1

This COM header is for COM serial devices.



# 2 Diagnostic card: ESPI\_HEADER1

Motherboard debugging interface, can be transferred to a digital card to analyze the motherboard problems.



# **22** PS/2 header: JBK1

To enable PS2 mouse/keyboard wake-up, the jumper cap should be placed on the PIN2-3 pins, and the BIOS Settings should also enable PS2 mouse/keyboard wake-up. (The stitches next to the bold white screen printing on the PCB board are the first stitches of the jumper)



KB/MS Wake			
1/2	Disable		
2/3	Enable		

### Hardware Installation

# **23** AIO header: AIO\_PUMP

This socket is used to connect the integrated water-cooled CPU radiator water pump power connector.



5-6 Back Panel IO Connector:

### **CVN B560M GAMING PRO V20 IO Connector**



● PS2 Keyboard/Mouse\*1 ● USB 2.0 Port\*2 ● DP Port\*1 ● HDMI Port\*1

- LAN Jack\*1 ③ USB 3.2 Gen 1 Port\*2 ④ Auido Card\*1

### CVN B560M GAMING FROZEN V20 IO Connector



- PS2 Keyboard/Mouse\*1 USB 2.0 Port\*2 DP Port\*1 HDMI Port\*1
- USB 3.2 Gen2x1 Type A Port\*1 3 USB 3.2 Gen2x1 Type-C Port\*1
- IAN Jack\*1 3 USB 3.2 Gen 1 Port\*2 Auido Card\*1
- CNVIWIFI\*1 (Only CVN B560M GAMING FROZEN V20)

The drive disc can automatically detect the chipset model, sound card model, on-board video card model or on-board network card model used by the main board, and click the corresponding button to install the corresponding driver.

Warm tip:

The drive disc can automatically detect the chipset model, sound card model, on-board video card model or on-board network card model used by the main board, and click the corresponding button to install the corresponding drive. At present, the drive disc only contains sound card drive, and the sound card drive control panel can be obtained free of charge through the following two ways:

1. Win10 automatic update.

2. Win10 app store obtains Realtek audio control for free, download the website:

https://www.microsoft.com/zh-cn/p/realtek-audio-control/9p2b8mcsvpln.



CAUTION: After installing the hardware, you must install the corresponding driver to play the strong performance of the motherboard.

### 5-8 BIOS Setting

This chapter introduces how to change the system settings through BIOS settings. Please refer to this chapter for details.

The chapter contains the following:

- OC (OverClock Settings)
- Advanced (Advanced BIOS Features)
- BIOS SETTING (Upgrade BIOS Settings)
- LANGUAGE (Language Settings)
- Exit (Exit Settings)

Enter BIOS Main Menu

BIOS (Basic Input and Output System) records hardware parameters of the system in the CMOS on the motherboard. Its major functions include conducting the Power-On Self-Test (POST) during system startup,saving system parameters and loading operating system, etc.When computer startup, and then enter the boot self test (POST) program, if there are any errors will be shown the following information:

Press F1 to enter Setup

Press F2 to Load default values and continue

(Press the <F1> key to enter BIOS Setup,press the <F2> key to load default values and continue)



If the boot self test (POST) program information is disappeared before you respond, you can turn it off and then turn on, or press the Reset button on the chassis to restart your computer, can also press < Ctrl > + < Alt > + < Delete > to restart the computer.

Since the BIOS version of the motherboard is constantly upgrading, the BIOS description is only for reference.

### CVN B560M GAMING PRO V20 / CVN B560M GAMING FROZEN V20



**BIOS Operation key** 

Overclock setting

#### **BIOS Setup Program Function Keys**

- $\Box$  <  $\uparrow \downarrow \leftarrow \rightarrow$  > Move the selection bar to select a setup menu
- Execute command or enter a menu
- A < Esc > Main Menu: Exit the BIOS Setup program Submenus: Exit current submenu
- Capture the current screen as an image
- Coad Optimized Defaults
- < F10 > Save all the changes and exit the BIOS Setup program
- < F11 > Advanced mode
- The BIOS settings can be operated with the mouse.



BIOS is constantly upgrading, the program screen is for reference only, it may be different from the screen you see, if you need to know the BIOS update instructions, please scan the QR code in the picture.



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**Technical Support** 

If a problem arises with your system and no solution can be obtained from the user's manual, please contact your place of purchase or local distributor. Or our engineer, send the follow information to us!

Customer name	Purchase date
Contacts	Contact phone
Contact address	Product model
Product SN	Dealer name
Dealer phone	Dealer address
Website: www.color	ful.cn

Service hotline: +86400-678-5866