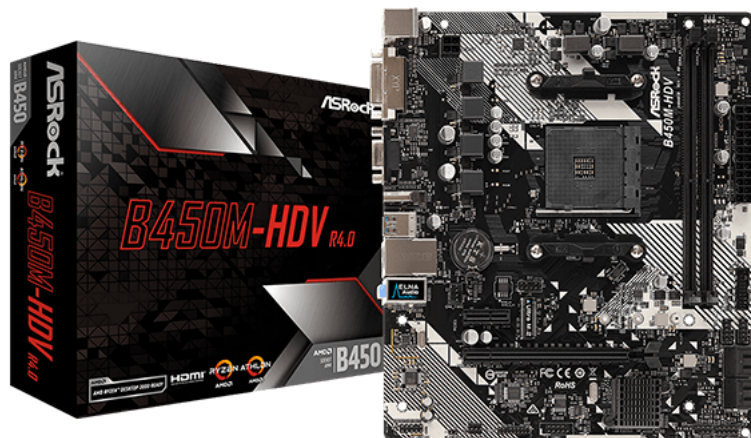


# B450M-HDV R4.0



- Supports AMD AM4 Socket Ryzen™ 2000, 3000 and 5000 Desktop Processors
- 2 DIMMs, Supports DDR4 3200+(OC)\*
- 1 PCIe 3.0 x16, 1 PCIe 2.0 x1
- Graphics Output : HDMI, DVI-D, D-Sub
- 7.1 CH HD Audio (Realtek ALC887/897 Audio Codec)
- 4 SATA3, 1 Ultra M.2 (PCIe Gen3 x4 & SATA3)\*
- 6 USB 3.1 Gen1 (2 Front, 4 Rear)
- Realtek Gigabit LAN

\*Actual support may vary by CPU.

This model may not be sold worldwide. Please contact your local dealer for availability of this model in your region.



Overview	Specification	Support	Where to Buy
Unique Feature	<b>ASRock Super Alloy</b> - High Density Glass Fabric PCB - Sapphire Black PCB <b>ASRock Ultra M.2 (PCIe Gen3 x4 &amp; SATA3)</b> <b>ASRock Full Spike Protection (for all USB, Audio, LAN Ports)</b> <b>ASRock Live Update &amp; APP Shop</b>		
CPU	- Supports AMD AM4 Socket Ryzen™ 2000, 3000 and 5000 Series Desktop Processors - 6 Power Phase design - Supports CPU up to 105W		
Chipset	- AMD Promontory B450		
Memory	- Dual Channel DDR4 Memory Technology - 2 x DDR4 DIMM Slots - AMD Ryzen series CPUs (Matisse) support DDR4 3200 / 2933 / 2667 / 2400 / 2133 ECC & non-ECC, un-buffered r - AMD Ryzen series CPUs (Pinnacle Ridge) support DDR4 3200+(OC) / 2933(OC) / 2667 / 2400 / 2133 ECC & non- buffered memory* - AMD Ryzen series CPUs (Picasso) support DDR4 2933 / 2667 / 2400 / 2133 non-ECC, un-buffered memory* - AMD Ryzen series CPUs (Summit Ridge) support DDR4 3200+(OC) / 2933(OC) / 2667 / 2400 / 2133 EC buffered memory*		

- AMD Ryzen series CPUs (Raven Ridge) support DDR4 3200+(OC) / 2933 / 2667 / 2400 / 2133 non-ECC, un-buffer memory\*
- Max. capacity of system memory: 64GB\*
- Supports Extreme Memory Profile (XMP) memory modules
- 15µ Gold Contact in DIMM Slots

\*For Ryzen Series CPUs (Picasso and Raven Ridge), ECC is only supported with PRO CPUs. Please refer to below table for DDR4 UDIMM maximum frequency support.

**Ryzen Series CPUs (Matisse):**

UDIMM Memory Slot		Frequency (Mhz)
A1	B1	
SR	-	3200
-	SR	3200
DR	-	3200
-	DR	3200
SR	SR	3200
DR	DR	3200

**Ryzen Series CPUs (Pinnacle Ridge):**

UDIMM Memory Slot		Frequency (Mhz)
A1	B1	
SR	-	2933
-	SR	2933
DR	-	2933
-	DR	2933
SR	SR	2933
DR	DR	2933

**Ryzen Series CPUs (Picasso):**

UDIMM Memory Slot		Frequency (Mhz)
A1	B1	
SR	-	2933
-	SR	2933
DR	-	2667
-	DR	2667
SR	SR	2933
DR	DR	2667

**Ryzen Series CPUs (Summit Ridge):**

UDIMM Memory Slot		Frequency (Mhz)
A1	B1	
SR	-	2667
-	SR	2667
DR	-	2667
-	DR	2667
SR	SR	2667
DR	DR	2667

**Ryzen Series CPUs (Raven Ridge):**

UDIMM Memory Slot		Frequency (Mhz)
A1	B1	
SR	-	2933
-	SR	2933
DR	-	2667
-	DR	2667
SR	SR	2933
DR	DR	2667

SR: Single rank DIMM, 1Rx4 or 1Rx8 on DIMM module label  
 DR: Dual rank DIMM, 2Rx4 or 2Rx8 on DIMM module label

\*\*Due to the operating system limitation, the actual memory size may be less than 4GB for the reservation for system usage under Windows. For Windows® 64-bit OS with 64-bit CPU, there is no such limitation.

**BIOS**

- 128Mb AMI UEFI Legal BIOS with GUI support
- Supports "Plug and Play"

	<ul style="list-style-type: none"> <li>- ACPI 5.1 compliance wake up events</li> <li>- Supports jumperfree</li> <li>- SMBIOS 2.3 support</li> <li>- DRAM Voltage multi-adjustment</li> </ul>
Graphics	<ul style="list-style-type: none"> <li>- Integrated AMD Radeon™ Vega Series Graphics in Ryzen Series APU*</li> <li>- DirectX 12, Pixel Shader 5.0</li> <li>- Shared memory default 2GB. Max Shared memory supports up to 16GB.**</li> <li>- Three graphics output options: D-Sub, DVI-D and HDMI</li> <li>- Supports Triple Monitor</li> <li>- Supports HDMI with max. resolution up to 4K x 2K (4096x2160) @ 24Hz / (3840x2160) @ 30Hz</li> <li>- Supports DVI-D with max. resolution up to 1920x1200 @ 60Hz</li> <li>- Supports D-Sub with max. resolution up to 2048x1536 @ 60Hz</li> <li>- Supports Auto Lip Sync, Deep Color (12bpc), xvYCC and HBR (High Bit Rate Audio) with HDMI Port (Compliant H monitor is required)</li> <li>- Supports HDCP 1.4 with DVI-D and HDMI Ports</li> <li>- Supports 4K Ultra HD (UHD) playback with HDMI Port</li> </ul> <p>*Actual support may vary by CPU</p> <p>**The Max shared memory 16GB requires 32GB system memory installed.</p>
Audio	<ul style="list-style-type: none"> <li>- 7.1 CH HD Audio (Realtek ALC887/897 Audio Codec)</li> <li>- Supports Surge Protection</li> </ul>
LAN	<ul style="list-style-type: none"> <li>- PCIE x1 Gigabit LAN 10/100/1000 Mb/s</li> <li>- Realtek RTL8111H</li> <li>- Supports Wake-On-LAN</li> <li>- Supports Lightning/ESD Protection</li> <li>- Supports Energy Efficient Ethernet 802.3az</li> <li>- Supports PXE</li> </ul>
Slots	<p>AMD Ryzen series CPUs (Matisse, Summit Ridge and Pinnacle Ridge)</p> <ul style="list-style-type: none"> <li>- 1 x PCI Express 3.0 x16 Slot (PCIe2: x16 mode)*</li> </ul> <p>AMD Ryzen series CPUs (Picasso, Raven Ridge)</p> <ul style="list-style-type: none"> <li>- 1 x PCI Express 3.0 x16 Slot (PCIe2: x8 mode)*</li> </ul> <p>AMD Athlon series CPUs</p> <ul style="list-style-type: none"> <li>- 1 x PCI Express 3.0 x16 Slot (PCIe2: x4 mode)*</li> </ul> <ul style="list-style-type: none"> <li>- 1 x PCI Express 2.0 x1 Slot</li> </ul> <p>*Supports NVMe SSD as boot disks</p>
Storage	<ul style="list-style-type: none"> <li>- 4 x SATA3 6.0 Gb/s Connectors, support RAID (RAID 0, RAID 1 and RAID 10), NCQ, AHCI and Hot Plug</li> <li>- 1 x Ultra M.2 Socket, supports M Key type 2242/2260/2280 M.2 SATA3 6.0 Gb/s module and M.2 PCI Express mod Gen3 x4 (32 Gb/s) (with Matisse, Picasso, Summit Ridge, Raven Ridge and Pinnacle Ridge) or Gen3 x2 (16 Gb/s) (v Athlon series APU)*</li> </ul> <p>*Supports NVMe SSD as boot disks Supports ASRock U.2 Kit</p>

Connector	<ul style="list-style-type: none"> <li>- 1 x COM Port Header</li> <li>- 1 x TPM Header</li> <li>- 1 x Chassis Intrusion and Speaker Header</li> <li>- 1 x CPU Fan Connector (4-pin)*</li> <li>- 2 x Chassis Fan Connectors (1 x 3-pin, 1 x 4-pin)**</li> <li>- 1 x 24 pin ATX Power Connector</li> <li>- 1 x 4 pin 12V Power Connector</li> <li>- 1 x Front Panel Audio Connector</li> <li>- 2 x USB 2.0 Headers (Support 4 USB 2.0 ports) (Supports ESD Protection)</li> <li>- 1 x USB 3.1 Gen1 Header (Supports 2 USB 3.1 Gen1 ports) (Supports ESD Protection)</li> </ul> <p>*The CPU Fan Connector supports the CPU fan of maximum 1A (12W) fan power.</p> <p>**The Chassis Fan Connector supports the chassis fan of maximum 1A (12W) fan power.</p>
Rear Panel I/O	<ul style="list-style-type: none"> <li>- 1 x PS/2 Mouse/Keyboard Port</li> <li>- 1 x D-Sub Port</li> <li>- 1 x DVI-D Port</li> <li>- 1 x HDMI Port</li> <li>- 2 x USB 2.0 Ports (Supports ESD Protection)</li> <li>- 4 x USB 3.1 Gen1 Ports (Supports ESD Protection)</li> <li>- 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED)</li> <li>- HD Audio Jacks: Line in / Front Speaker / Microphone</li> </ul>
Software and UEFI	<p><b>Software</b></p> <ul style="list-style-type: none"> <li>- ASRock A-Tuning</li> <li>- ASRock XFast LAN</li> </ul> <p><b>UEFI</b></p> <ul style="list-style-type: none"> <li>- ASRock Full HD UEFI</li> <li>- ASRock Instant Flash</li> <li>- ASRock Easy RAID Installer</li> </ul> <p>*These utilities can be downloaded from ASRock Live Update &amp; APP Shop.</p>
Support CD	<ul style="list-style-type: none"> <li>- Drivers, Utilities, AntiVirus Software (Trial Version), Google Chrome Browser and Toolbar</li> </ul>
Accessories	<ul style="list-style-type: none"> <li>- Quick Installation Guide, Support CD, I/O Shield</li> <li>- 2 x SATA Data Cables</li> <li>- 1 x Screw for M.2 Socket</li> </ul>
Hardware Monitor	<ul style="list-style-type: none"> <li>- CPU/Chassis temperature sensing</li> <li>- CPU/Chassis Fan Tachometer</li> <li>- CPU/Chassis Quiet Fan</li> <li>- CPU/Chassis Fan multi-speed control</li> <li>- CASE OPEN detection</li> <li>- Voltage monitoring: +12V, +5V, +3.3V, Vcore</li> </ul>
Form Factor	<ul style="list-style-type: none"> <li>- Micro ATX Form Factor: 9.0-in x 7.9-in, 23.0 cm x 20.1 cm</li> <li>- Solid Capacitor design</li> </ul>