

# ROG CROSSHAIR VIII DARK HERO

## specifications summary

<b>CPU</b>	AMD AM4 Socket for AMD Ryzen™ 5000 Series / 4000 G-Series / 3000 Series / 3000 G-Series / 2000 Series / 2000 G-Series desktop processors* * Refer to <a href="http://www.asus.com">www.asus.com</a> for CPU support list.
<b>Chipset</b>	AMD X570 Chipset
<b>Memory</b>	<b>AMD Ryzen™ 5000 and 3000 Series Desktop Processors</b> 4 x DIMM, max. 128GB, DDR4 5000(O.C.) / 4866(O.C.) / 4800(O.C.) / 4600(O.C.) / 4400(O.C.) / 4266(O.C.) / 4133(O.C.) / 4000(O.C.) / 3866(O.C.) / 3733(O.C.) / 3600(O.C.) / 3466(O.C.) / 3400(O.C.) / 3200 / 3000 / 2933 / 2800 / 2666 / 2400 / 2133 MHz, un-buffered memory  <b>AMD Ryzen™ 4000 G-Series Desktop Processors</b> 4 x DIMM, max. 128GB, DDR4 5100(O.C.) / 5000(O.C.) / 4866(O.C.) / 4800(O.C.) / 4600(O.C.) / 4400(O.C.) / 4266(O.C.) / 4133(O.C.) / 4000(O.C.) / 3866(O.C.) / 3733(O.C.) / 3600(O.C.) / 3466(O.C.) / 3400(O.C.) / 3200 / 3000 / 2933 / 2800 / 2666 / 2400 / 2133 MHz, un-buffered memory  <b>AMD Ryzen™ 2000 Series Desktop Processors</b> 4 x DIMM, max. 128GB, DDR4 3600(O.C.) / 3466(O.C.) / 3400(O.C.) / 3200(O.C.) / 3000(O.C.) / 2933 / 2800 / 2666 / 2400 / 2133 MHz, un-buffered memory  <b>AMD Ryzen™ 3000 and 2000 G-Series Desktop Processors</b> 4 x DIMM, max. 128GB, DDR4 3200(O.C.) / 3000(O.C.) / 2933 / 2800 / 2666 / 2400 / 2133 MHz, un-buffered memory  Dual Channel Memory Architecture OptiMem III * Refer to <a href="http://www.asus.com">www.asus.com</a> for the Memory QVL (Qualified Vendors Lists).
<b>Expansion Slots</b>	<b>AMD Ryzen™ 5000 and 3000 Series Desktop Processors</b> - 2 x PCIe 4.0 x16 SafeSlots (support x16, x8/x8) <b>AMD Ryzen™ 4000 G-Series and 2000 series Desktop Processors</b> - 2 x PCIe 3.0 x16 SafeSlots (support x16, x8/x8) <b>AMD Ryzen™ 3000 and 2000 G-Series Desktop Processors</b> - 1 x PCIe 3.0 x16 SafeSlot (supports x8) <b>AMD X570 chipset</b> - 1 x PCIe 4.0 x16 (supports x4) - 1 x PCIe 4.0 x1
<b>Multi-GPU Support</b>	<b>AMD Ryzen™ 5000, 4000 G-series, 3000 and 2000 Series Desktop Processors</b> Supports NVIDIA® 2-Way SLI® Technology Supports AMD 3-Way CrossFireX™ Technology <b>AMD Ryzen™ 3000 and 2000 G-Series Desktop Processors</b> Supports AMD 2-Way CrossFireX™ Technology

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Storage	<p><b>AMD Ryzen™ 5000 and 3000 Series Desktop Processors</b></p> <ul style="list-style-type: none"> <li>- 1 x M.2 Socket 3 with M Key, type 2242/2260/2280 (PCIe 4.0 x4 and SATA modes) storage devices support</li> </ul> <p><b>AMD Ryzen™ 4000, 3000, 2000 Series and 2000 G-Series Desktop Processors</b></p> <ul style="list-style-type: none"> <li>- 1 x M.2 Socket 3 with M Key, type 2242/2260/2280 (PCIe 3.0 x4 and SATA modes) storage devices support</li> </ul> <p><b>AMD X570 chipset</b></p> <ul style="list-style-type: none"> <li>- 1 x M.2 Socket 3 with M Key, type 2242/2260/2280/22110(PCIe 4.0 x4 and SATA modes) storage devices support</li> <li>- 8 x SATA 6Gb/s ports</li> <li>- Support Raid 0, 1, 10</li> </ul>
Ethernet	<p>1 x Realtek RTL8125-CG 2.5Gb Ethernet</p> <p>1 x Intel® I211-AT 1Gb Ethernet</p> <p>ASUS LANGuard</p>
Wireless & Bluetooth	<p><b>Intel® Wi-Fi 6 AX200</b></p> <p>2x2 Wi-Fi 6 (802.11 a/b/g/n/ac/ax) support 1024QAM/OFDMA/MU-MIMO</p> <p>Supports up to 2.4Gbps max data rate</p> <p>Supports 2.4/5GHz Dual-Band</p> <p>Supports channel bandwidth: HT20/HT40/HT80/HT160</p> <p>Supports PCIe interface</p> <p>Bluetooth v5.1*</p> <p>* Bluetooth 5.1 function will be ready in Windows 10 build 19041 or later.</p>
USB	<p><b>AMD Ryzen™ 5000, 4000 G-Series and 3000 Series Desktop Processors</b></p> <ul style="list-style-type: none"> <li>- 4 x USB 3.2 Gen 2 ports (4 ports at back panel, Type-A [red])</li> </ul> <p><b>AMD Ryzen™ 3000, 2000 Series and 2000 G-Series Desktop Processors</b></p> <ul style="list-style-type: none"> <li>- 4 x USB 3.2 Gen 1 ports (4 ports at back panel, Type-A [red])</li> </ul> <p><b>AMD X570 chipset</b></p> <ul style="list-style-type: none"> <li>- 1 x USB 3.2 Gen 2 front panel connector</li> <li>- 4 x USB 3.2 Gen 2 ports (4 ports at back panel, 3 x Type-A [red], 1 x USB Type-C®)</li> <li>- 6 x USB 3.2 Gen 1 ports (4 ports at back panel [blue], 2 ports at front panel)</li> <li>- 4 x USB 2.0 ports at front panel</li> </ul>
Audio	<p><b>ROG SupremeFX 7.1 Surround Sound High Definition Audio CODEC S1220</b></p> <ul style="list-style-type: none"> <li>- Impedance sense for front and rear headphone outputs</li> <li>- Supports: Jack-detection, Multi-streaming, Front Panel Jack-tasking</li> <li>- High quality 120 dB SNR stereo playback output and 113 dB SNR recording input</li> <li>- Supports up to 32-Bit/192 kHz playback*</li> </ul>

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Audio	<p><b>Audio Features</b></p> <ul style="list-style-type: none"><li>- SupremeFX Shielding Technology</li><li>- EESS® ES9023P High Definition DAC</li><li>- Power pre-regulator reduces power input noise to ensure consistent performance</li><li>- Gold-plated audio jacks</li><li>- Rear optical S/PDIF out port</li><li>- Premium Japanese audio capacitors</li><li>- Dedicated audio PCB layers</li><li>- Audio cover</li><li>- Unique de-pop circuit</li></ul> <p>* Due to limitations in HDA bandwidth, 32-Bit/192 kHz is not supported for 7.1 Surround Sound audio.</p>
Back I/O Ports	<p>8 x USB 3.2 Gen 2 ports (7 x Type-A + 1 x USB Type-C®)</p> <p>4 x USB 3.2 Gen 1 ports (4 x Type-A)</p> <p>1 x ASUS Wi-Fi Module</p> <p>1 x Realtek RTL8125-CG 2.5Gb Ethernet port</p> <p>1 x Intel® I211-AT 1Gb Ethernet port</p> <p>5 x Gold-plated audio jacks</p> <p>1 x Optical S/PDIF out port</p> <p>1 x BIOS FlashBack™ button</p> <p>1 x Clear CMOS button</p>
Internal I/O connectors	<p><b>Fan and cooling related</b></p> <p>1 x 4-pin CPU Fan header(s)</p> <p>1 x 4-pin CPU OPT Fan header(s)</p> <p>1 x 4-pin AIO Pump header(s)</p> <p>3 x 4-pin Chassis Fan header(s)</p> <p>1 x 4-pin H_AMP Fan header(s)</p> <p>1 x W_PUMP+ header(s)</p> <p>1 x 2-pin Water In header</p> <p>1 x 2-pin Water Out header</p> <p>1 x 3-pin Water Flow header</p> <p><b>Power related</b></p> <p>1 x 24-pin Main Power connector</p> <p>1 x 8-pin +12V Power connector</p> <p>1 x 4-pin +12V Power connector</p> <p><b>Storage related</b></p> <p>2 x M.2 slots (Key M)</p> <p>8 x SATA 6Gb/s ports</p> <p><b>USB</b></p> <p>1 x USB 3.2 Gen 2 Front Panel connector (support(s) USB Type-C®)</p> <p>1 x USB 3.2 Gen 1 header(s) support(s) additional 2 USB 3.2 Gen 1 ports</p> <p>2 x USB 2.0 header(s) support(s) additional 4 USB 2.0 ports</p>

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Internal I/O connectors	<p><b>Miscellaneous</b></p> <p>2 x AURA Addressable Gen 2 header(s)</p> <p>2 x AURA RGB header(s)</p> <p>1 x Front Panel Audio header (AAFP)</p> <p>1 x LN2 Mode jumper</p> <p>1 x Reset button</p> <p>1 x ReTry button</p> <p>1 x Safe Boot button</p> <p>1 x Slow Mode switch</p> <p>1 x Speaker header</p> <p>1 x TPM header (14-1pin)</p> <p>1 x Start button</p> <p>1 x 10-1 pin System Panel header</p> <p>1 x Thermal Sensor header</p>
Special Features	<p><b>Extreme OC Kit</b></p> <ul style="list-style-type: none"><li>- LN2 Mode</li><li>- ReTry button</li><li>- Safe boot button</li><li>- Start button</li><li>- Slow Mode</li></ul> <p><b>Extreme Engine Digi+</b></p> <ul style="list-style-type: none"><li>- 10K Black Metallic Capacitors</li><li>- TI CSD95410RRB Power Stage (90A)</li><li>- MicroFine Alloy Choke</li></ul> <p><b>ASUS Q-Design</b></p> <ul style="list-style-type: none"><li>- ASUS Q-Code</li><li>- ASUS Q-Connector</li><li>- ASUS Q-DIMM</li><li>- ASUS Q-LED (CPU [red], DRAM [yellow], VGA [white], Boot Device [yellow green])</li><li>- ASUS Q-Slot</li></ul> <p><b>ASUS Thermal Solution</b></p> <ul style="list-style-type: none"><li>- Aluminum M.2 heatsink</li><li>- Chipset passive cooling solution</li></ul> <p><b>ASUS EZ DIY</b></p> <ul style="list-style-type: none"><li>- BIOS FlashBack™ button</li><li>- Clear CMOS button</li><li>- Procool II</li><li>- Pre-mounted I/O shield</li><li>- SafeSlot</li></ul> <p><b>AURA Sync</b></p> <ul style="list-style-type: none"><li>- AURA RGB header(s)</li><li>- Addressable Gen 2 RGB header(s)</li></ul>

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Software Features	ROG Exclusive Software
	- RAMCache III
	- ROG CPU-Z
	- GameFirst VI
	- Sonic Studio III + Sonic Studio Virtual Mixer
	- Sonic Radar III
	- DTS® Sound Unbound
	- Overwolf
	- Anti-virus software
	<b>ASUS Exclusive Software Features</b>
	Armoury Crate
	- Aura Creator
	- Aura Sync
	AI Suite 3
	- 5-Way Optimization by Dual Intelligent Processors 5
	TPU
	EPU
	DIGI+ VRM
	Fan Xpert 4
	Turbo app
	- EZ update
	- ASUS CPU-Z
	- AI Charger
	- WinRAR
	<b>UEFI BIOS</b>
	ASUS EZ DIY
	- ASUS CrashFree BIOS 3
	- ASUS EZ Flash 3
	- ASUS UEFI BIOS EZ Mode
BIOS	256 Mb Flash ROM, UEFI AMI BIOS
Manageability	WOL by PXE
Operating System	Windows® 10 - 64 bit
Form Factor	ATX Form Factor
	12 inch x 9,6 inch (30,5cm x 24,4cm)



Specifications are subject to change without notice. Please refer to the ASUS website for the latest specifications.

# Package contents

Check your motherboard package for the following items.

Motherboard	1 x ROG CROSSHAIR VIII DARK HERO motherboard
Cables	1 x Addressable RGB extension cable
	1 x RGB extension cable
	4 x SATA 6Gb/s cables
Miscellaneous	1 x M.2 SSD screw package(s)
	1 x Q-connector
	1 x ROG coaster
	1 x ROG stickers
	1 x ROG thank you card
	1 x ASUS 2x2 Dual-Band Wi-Fi moving antennas
Installation Media	1 x Support DVD
Documentation	1 x User manual



If any of the above items is damaged or missing, contact your retailer.