

AMD RYZEN™ 9000 SERIES DESKTOP PROCESSORS

QUICK REFERENCE GUIDE



Born to lead. Destined to Win. Built using the latest breakthrough 4nm processor technology, AMD Ryzen™ 9000 Series processors are the ultimate advanced processors for fast performance, designed to deliver incredible efficiency life while remaining cool and quiet.

INCREDIBLE POWER

- High-performance “Zen 5” core architecture¹
- A powerhouse processor for gaming and content creation
- 4nm manufacturing process

LEADERSHIP TECHNOLOGIES

- AMD 3D V-Cache™ technology for the best gaming experiences
- AMD EXPO™ technology for one-touch memory overclocking²
- Designed to deliver incredible AI acceleration with AMD Radeon™ graphics capabilities

DEPENDABLE LONGEVITY

- Future upgrade support available
- Fast DDR5 memory speeds
- Incredible bandwidth with PCIe® 5.0

PRODUCT SPECIFICATIONS

PROCESSOR MODEL	CORES/ THREADS	TYPICAL TDP	MAX/BASE FREQUENCY ³ (UP TO)	TOTAL CACHE L2 + L3	PCIe® GEN	UNLOCKED FOR OVERCLOCKING ²	COOLER INCLUDED	BUILT-IN GRAPHICS
AMD RYZEN™ 9 9950X3D2	16/32	200 W	5.6 / 4.3 GHz	208 MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 9950X3D	16/32	170 W	5.7 / 4.3 GHz	144 MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 9950X	16/32	170W	5.7 / 4.3 GHz	80 MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 9900X3D	12/24	120W	5.5 / 4.4 GHz	140 MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 9900X	12/24	120W	5.6 / 4.4 GHz	76 MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 7 9850X3D	8/16	120W	5.6 / 4.7 GHz	104MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 7 9800X3D	8/16	120W	5.2 / 4.7 GHz	104MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 7 9700X	8/16	65W	5.5 / 3.8 GHz	40 MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 5 9600X	6/12	65W	5.4 / 3.9 GHz	38 MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 5 9600	6/12	65W	5.2 / 3.8 GHz	38 MB	5.0	Yes	AMD Wraith Stealth	AMD Radeon™ Graphics

THIS CHART ILLUSTRATES RELATIVE PRODUCT POSITIONING ON KEY FUNCTIONALITY AND IS NOT NECESSARILY AN INDICATION OF RELATIVE PERFORMANCE. PERFORMANCE MAY VARY BY APPLICATION.

FEATURES

AMD EXPO™ TECHNOLOGY

- Improved memory performance designed for getting in the game fast² can unlock higher and smooth frame rates

AMD 800 SERIES MOTHERBOARD-READY

- AMD X870E, X870, B850, B840 chipsets
- Support for PCIe® Gen 5
- Memory overclocking support
- USB 4.0

BUILT-IN AMD RADEON™ GRAPHICS

- Capable built-in AMD Radeon™ graphics for immersive multi-media and seamless productivity

AMD 3D V-CACHE™ TECHNOLOGY

- Extra memory sitting below processor cores for direct access to the cooler
- When a chip runs cooler, it can run faster
- Up to 208 MB of on-chip memory
- Perfect for users who want faster gaming or content creation performance
- Includes the following CPU models:
 - AMD Ryzen™ 9 9950X3D2 / Ryzen 9 9950X3D / Ryzen 9 9900X3D
 - AMD Ryzen™ 7 9850X3D / Ryzen 7 9800X3D

AMD RYZEN™ 9 9950X3D2 DUAL EDITION PROCESSOR

- Dual AMD 3D V-Cache™ technology-based processor delivering additional cache to enable developers and creators to drive the next wave of innovation
- Engineered with developers and creators in mind for flexibility and responsiveness

RECOMMENDED USAGE CHART

PROCESSOR FAMILY	● BEST ◐ BETTER ○ GOOD			
	PRODUCTIVITY & ENTERTAINMENT 	SMOOTH GAMING 	GAME STREAMING 	CONTENT CREATION
AMD RYZEN™ 9 PROCESSORS THE PERFECT PROCESSOR FOR ELITE GAMERS AND CREATORS.	●	●	●	●
AMD RYZEN™ 7 PROCESSORS THRILLING SPEED FOR POWERFUL PCS.	●	●	◐	◐
AMD RYZEN™ 5 PROCESSORS THE PERFECT SPEED FOR WORK AND PLAY.	●	◐	○	○
AMD RYZEN™ 3 PROCESSORS PERFORMANCE ON-THE-GO STARTS HERE.	●	○		

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NEXT STEPS

Find out more by visiting www.amd.com/RYZEN

For more AMD product training, sign up at arena.amd.com and earn rewards!

ENDNOTES

1. "Zen 5" is a codename for AMD architecture and is not a product name. GD-122a

2. Overclocking and/or undervolting AMD processors and memory, including without limitation, altering clock frequencies / multipliers or memory timing / voltage, to operate outside of AMD's published specifications will void any applicable AMD product warranty, even when enabled via AMD hardware and/or software. This may also void warranties offered by the system manufacturer or retailer. Users assume all risks and liabilities that may arise out of overclocking and/or undervolting AMD processors, including, without limitation, failure of or damage to hardware, reduced system performance and/or data loss, corruption or vulnerability. GD-106

3. Boost Clock Frequency is the maximum frequency achievable on the CPU running a bursty workload. Boost clock achievability, frequency, and sustainability will vary based on several factors, including but not limited to: thermal conditions and variation in applications and workloads. GD-150

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