

AMD RYZEN™ 7000 SERIES DESKTOP PROCESSORS

QUICK REFERENCE GUIDE



POWER. PERFORMANCE. EFFICIENCY. All are available due to the technological innovation of the 5nm “Zen 4” core found inside AMD Ryzen™ 7000 Series processors.



THE ULTIMATE GAMING PROCESSOR

With up to 16 cores, 32 threads, boost clocks of up to 5.7GHz² and up to 144MB of cache, AMD Ryzen™ 7000 Series processors deliver game-changing performance. From AAA games to esports, the power of AMD Ryzen™ processors provide the power needed for elite gaming experiences and high FPS in select titles.

THE LATEST TECHNOLOGIES

AMD Ryzen™ 7000 Series processors are built to challenge the clock. With time-saving connectivity like PCIe® 5.0 storage support, ultra-fast WiFi® 6E wireless¹, up to 32 processing threads, and dedicated video accelerators on select models⁴, creator experiences are elevated with AMD Ryzen™ 7000 Series processors.

THE FUTURE OF AMD RYZEN™ PROCESSORS

The all-new AMD Ryzen 7000 Series processors are packed with state-of-the-art technologies for an effortlessly modern PC. Highlights include DDR5 memory, incredible bandwidth with PCIe® 5.0 support, AMD EXPO™ one-touch memory overclocking⁴, and hyper-efficient 5nm manufacturing.

PRODUCT SPECIFICATIONS

PROCESSOR MODEL	CORES/ THREADS	TYPICAL TDP	MAX/BASE FREQUENCY ⁴ (UP TO)	TOTAL CACHE	PCI-E® GEN	UNLOCKED FOR OVERCLOCKING ³ ?	COOLER INCLUDED	BUILT-IN GRAPHICS
AMD RYZEN™ 9 7950X3D	16/32	120W	5.7 / 4.2 GHz	144MB	5.0	PBO & Curve Optimizer	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 7950X	16/32	170W	5.7 / 4.5 GHz	80MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 7900X3D	12/24	120W	5.6 / 4.4 GHz	140MB	5.0	PBO & Curve Optimizer	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 7900X	12/24	170W	5.6 / 4.7 GHz	76MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 9 7900	12/24	65W	5.4 / 3.7 GHz	76MB	5.0	Yes	Wraith Prism w/RGB	AMD Radeon™ Graphics
AMD RYZEN™ 7 7800X3D	8/16	120W	5.0 / 4.2 GHz	104MB	5.0	PBO & Curve Optimizer	No	AMD Radeon™ Graphics
AMD RYZEN™ 7 7700X	8/16	105W	5.4 / 4.5 GHz	40MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 7 7700	8/16	65W	5.3 / 3.8 GHz	40MB	5.0	Yes	Wraith Prism w/RGB	AMD Radeon™ Graphics
NEW! AMD RYZEN™ 5 7600X3D	6/12	65W	4.7 / 4.1 GHz	102 MB	5.0	PBO & Curve Optimizer	No	AMD Radeon™ Graphics
AMD RYZEN™ 5 7600X	6/12	105W	5.3 / 4.7 GHz	38MB	5.0	Yes	No	AMD Radeon™ Graphics
AMD RYZEN™ 5 7600	6/12	65W	5.1 / 3.8 GHz	38MB	5.0	Yes	Wraith Stealth	AMD Radeon™ Graphics
AMD RYZEN™ 5 7500F	6/12	65W	5.0 / 3.7 GHz	38MB	5.0	Yes	Wraith Stealth	N/A

This chart illustrates relative product positioning on key functionality and is not necessarily an indication of relative performance. Performance may vary by application.

FEATURES

PRECISION BOOST OVERDRIVE

- Automatic overclocking with increased clock speed and power limits at the touch of a button³

*Availability of overclocking, Ryzen™ Master, Precision Boost Overdrive, and other Ryzen™ technologies in pre-built OEM desktop systems will vary based on PC manufacturer settings. Check with your PC manufacturer for more information.

AMD 3D V-CACHE™ TECHNOLOGY

- Can provide lower latency and even more game performance⁶

AMD RYZEN™ TECHNOLOGIES

- AMD Ryzen™ Master for easy, personalized performance
- AMD Expo™ Technology improved memory performance for getting in the game faster⁴ can unlock higher and smoother frame rates
- Precision Boost 2⁵ can automatically raise processor frequencies for supercharged performance

RECOMMENDED USAGE CHART

● BEST ◐ BETTER ○ GOOD

PROCESSOR MODEL	MAX GAME PERFORMANCE	GAMING & STREAMING	CONTENT CREATION	PRODUCTIVITY & ENTERTAINMENT
AMD RYZEN™ 9 7950X3D	●	●	●	●
AMD RYZEN™ 9 7950X	◐	●	●	●
AMD RYZEN™ 9 7900X3D	●	●	●	●
AMD RYZEN™ 9 7900X	◐	●	●	●
AMD RYZEN™ 9 7900	○	●	●	●
AMD RYZEN™ 7 7800X3D	●	◐	◐	●
AMD RYZEN™ 7 7700X	◐	◐	◐	●
AMD RYZEN™ 7 7700	○	◐	◐	●
NEW! AMD RYZEN™ 5 7600X3D	●	◐	◐	●
AMD RYZEN™ 5 7600X	◐	◐	◐	●
AMD RYZEN™ 5 7600	○	◐	◐	●
AMD RYZEN™ 5 7500F	○	◐	◐	●

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ENDNOTES

- GD-149A, Wi-Fi 6E, Wi-Fi 7 and Bluetooth 5.0 availability varies by laptop manufacturer and are system configuration dependent. Check with your laptop manufacturer for compatibility information.
- GD-150. Max boost for AMD Ryzen processors is the maximum frequency achievable by a single core on the processor running a bursty single-threaded workload. Max boost will vary based on several factors, including, but not limited to: thermal paste; system cooling; motherboard design and BIOS; the latest AMD chipset driver; and the latest OS updates.
- GD-179. Precision Boost Overdrive requires an AMD Ryzen Threadripper or a Ryzen 3000/4000/5000/7000 series desktop processor, and a compatible motherboard. AMD Ryzen 3400G and 3200G series processors are not compatible. Because Precision Boost Overdrive enables operation of the processor outside of AMD's published specifications, use of the feature invalidates the AMD product warranty and may also void warranties offered by the system manufacturer or retailer. Availability of Precision Boost Overdrive in pre-built OEM desktop systems will vary based on the PC manufacturer's settings. Check with the PC manufacturer prior to purchase.
- GD-106. 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 / undervolting AMD processors, including, without limitation, failure of or damage to hardware, reduced system performance and/or data loss, corruption or vulnerability.
- GD-188 For additional information about Precision Boost 2, see <https://www.amd.com/en/support/kb/faq/cpu-pb2>.
- RPL-35 Game testing as of 5 December, 2022, by AMD Performance Labs using the following hardware to test 20+ games: AMD Socket AM5 Reference Motherboard with AMD Ryzen™ 9 7950X, Ryzen™ 9 7950X3D and G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™; ALL SYSTEMS configured with NX2 Kraken X63, open air test bench, GeForce 4090, Windows 11, PCIe® Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. All games tested at 1920x1080 with HIGH in-game preset and the chronologically newest graphics industry API available within the game's rendering engine. Desktop system manufacturers may vary configurations, yielding different results.

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