AMD RYZEN™ 7000 SERIES PROCESSOR

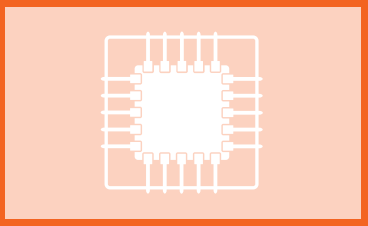
The Fastest in the Game[1]

The world's most advanced[2] x86 desktop processor for gamers and content creators beautifully extends AMD performance and performance-per-watt leadership to power your PC.

TARGET AUDIENCE

GAMERS WHO CRAVE TO UNLOCK HIGHER AND SMOOTHER FRAME RATES

CONTENT CREATORS WHO WANT TO DESIGN FASTER TO BEAT THE CLOCK.



USERS THAT WANT STATE-OF-THE-ART TECHNOLOGIES FOR AN EFFORTLESSLY MODERN PC.

SELL IT IN 30 SECONDS

HIGH PERFORMANCE

• Up to 16 cores, 32 threads, boost clocks of up to 5.7GHz[4] and up to 80MB of cache.

ENERGY EFFICIENCY

• Up to 28% better efficiency than the previous generation[6] and up to 47% better performance per watt than than 12thGen Core i9 Processors.[2]

PRECISION BOOST OVERDRIVE (PBO)

• Automatic overclocking with increased clock speed and power limits at the touch of a button.[5]

AMD EXPO™ TECHNOLOGY

• Unlock improved memory performance for faster gaming[5] and smoother frame rates in your favorite games.

5NM "ZEN 4" ARCHITECTURE

• Insane speed of "Zen 4" cores make Ryzen™ 7000 Series processors a gaming powerhouse.

PRECISION BOOST 2[7]

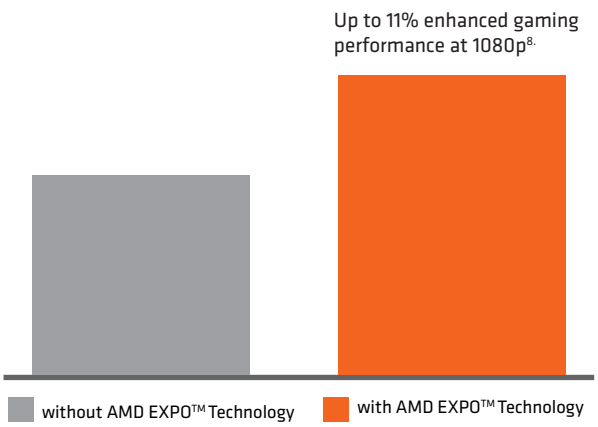
• Automatically raise processor frequencies for supercharged performance.

PRODUCT SPECIFICATIONS

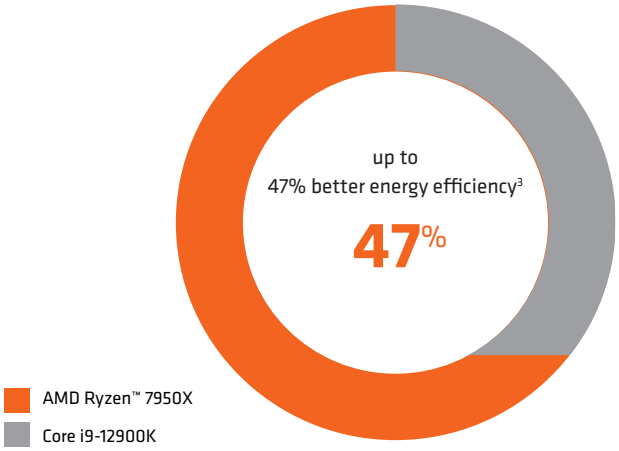
	CORES/ THREADS	TYPICAL TDP	UP TO MAX/ BASE FREQUENCY[4]	TOTAL CACHE	PCIE® LANES WITH X670 CHIPSET (UP TO)	UNLOCKED FOR OVER-CLOCKING[5]?	COMPETITIVE PROCESSOR	COOLER
AMD RYZEN™ 9 7950X	16/32	170W	5.7 / 4.5	80MB	44/24	Yes	--	Not Included
AMD RYZEN™ 9 7900X	12/24	170W	5.6 / 4.7	76MB	44/24	Yes	Core i9-12900K	Not Included
AMD RYZEN™ 7 7700X	8/16	105W	5.4 / 4.5	40MB	44/24	Yes	Core i7-12700K	Not Included
AMD RYZEN™ 5 7600X	6/12	105W	5.3 / 4.7	38MB	44/24	Yes	Core i5-12600K	Not Included

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

AMD EXPO™ TECHNOLOGY

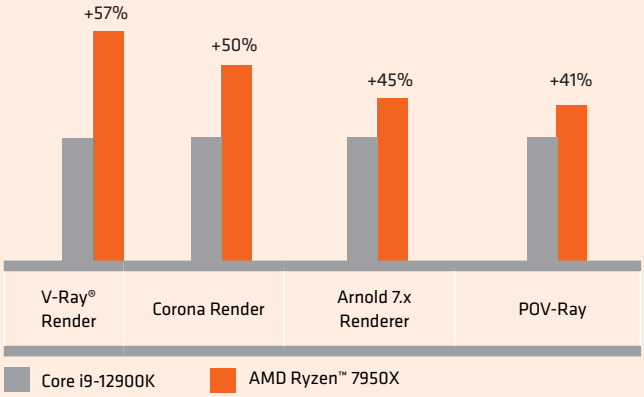


PERFORMANCE-PER-WATT - COMPETITIVE[3]



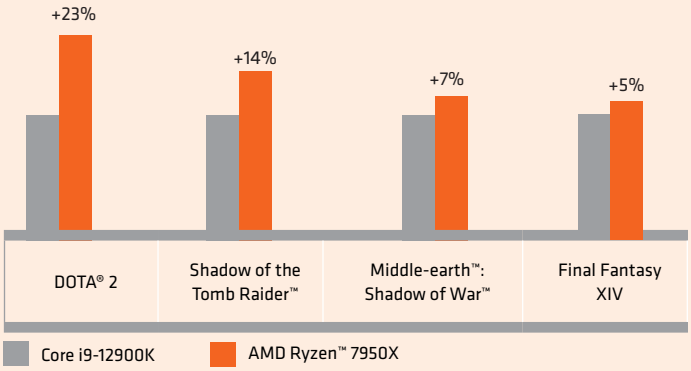
CREATOR PERFORMANCE - COMPETITIVE[3]

UP TO



GAMING PERFORMANCE - COMPETITIVE[1]

UP TO



1. RPL-007. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD Socket AM5 Reference Motherboard with AMD Ryzen™ 9 7950X, Ryzen™ 9 7900X, Ryzen™ 5 7600X and G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™; versus AMD Socket AM4 Reference Motherboard with Ryzen™ 9 5950X, Ryzen™ 9 5900X, Ryzen™ 5 5600X; versus ROG Maximus Z690 Hero with Core i9-12900K and G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™ loaded. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Radeon™ RX 6950XT (driver 22.7.1 Optional), Windows® 11 22000.856, AMD Smart Access Memory/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 (e.g. Vulkan® over OpenGL™, DirectX® 12 over DirectX® 11). Results may vary.
2. RPL-004. Based on a smaller node size (5nm) of AMD x86 desktop processors, August 2022.
3. RPL-009. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD AM5 Reference Motherboard with AMD Ryzen™ 9 7950X with G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™ loaded, versus ROG Maximus Z690 Hero with Core i9-12900K and G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™ loaded. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Gigabyte RTX 3090 Gaming OC (driver 516.40), Windows® 11 22000.856, AMD Smart Access Memory/PCIe® Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. Power measured at the wall in Joules of energy consumed for the full workload. Raytraced rendering performance evaluated with Chaos V-Ray Benchmark. Results may vary.
4. 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.
5. 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 and/or undervolting AMD processors, including, without limitation, failure of or damage to hardware, reduced system performance and/or data loss, corruption or vulnerability.
6. RPL-017 Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD AM5 Reference Motherboard with AMD Ryzen™ 9 7950X with G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™ loaded, versus AM4 Reference motherboard with Ryzen 9 5950X and DDR4-3600C16. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Gigabyte RTX 3090 Gaming OC (driver 516.40), Windows® 11 22000.856, AMD Smart Access Memory/PCIe® Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. Energy efficiency evaluated with Cinebench R23 score and wall power total joules of energy consumed for work completion. Results may vary.
7. GD-188. For additional information about Precision Boost 2, see https://www.amd.com/en/support/kb/faq/cpu-pb2.
8. RPL-008. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD AM5 Reference Motherboard with AMD Ryzen™ 9 7950X with G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™ loaded, AMD AM4 Reference Motherboard with AMD Ryzen™ 9 5950X and DDR4-3600C16, and ROG Maximus Z690 Hero with Core i9-12900K and G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO™ loaded. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Radeon™ RX 6950XT (driver 22.7.1 Optional), Windows® 11 22000.856, AMD Smart Access Memory/PCIe® Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. Results may vary.