# AMD RYZEN<sup>™</sup> 7000 SERIES PROCESSOR PURE GAMING PERFORMANCE

AMD Ryzen 7000 Series processors usher in the insane speed of "Zen 4" for gamers and creators with pure power to tackle any game or workflow on the digital playground.

# TARGET AUDIENCE



GAMERS WHO CRAVE TO UNLOCK HIGHER AND SMOOTHER FRAME RATES

# SELL IT IN 30 SECONDS

## **HIGH PERFORMANCE**

• Up to 16 cores, 32 threads, boost clocks of up to 5.7GHz<sup>1</sup> and up to 80MB of cache.

## AMD EXPO<sup>™</sup> TECHNOLOGY

• Unlock improved memory performance for faster gaming<sup>4</sup> and smoother frame rates in your favorite games.



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

### **ENERGY EFFICIENCY**

• AMD Ryzen<sup>™</sup> 7000 Series can enable the same performance as the previous generation at 62% lower power<sup>3</sup>.

## **5NM "ZEN 4" ARCHITECTURE**

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



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

## **PRECISION BOOST OVERDRIVE (PBO)**

• Automatic overclocking with increased clock speed and power limits at the touch of a button.<sup>4</sup>

#### **PRECISION BOOST 2<sup>5</sup>**

• Automatically raise processor frequencies for supercharged performance.

# PRODUCT SPECIFICATIONS

	CORES/ THREADS	TYPICAL TDP	UP TO MAX/BASE FREQUENCY <sup>1</sup>	TOTAL CACHE	PCIE <sup>®</sup> LANES WITH X670 CHIPSET <sup>(UP TO)</sup>	UNLOCKED FOR OVERCLOCKING⁴?	COOLER
AMD RYZEN <sup>™</sup> 9 7950X	16/32	170W	5.7 / 4.5	80MB	44/24	Yes	Not Included
AMD RYZEN <sup>™</sup> 9 7900X	12/24	170W	5.6 / 4.7	76MB	44/24	Yes	Not Included
AMD RYZEN™ 7 7700X	8/16	105W	5.4 / 4.5	40MB	44/24	Yes	Not Included
AMD RYZEN <sup>™</sup> 5 7600X	6/12	105W	5.3 / 4.7	38MB	44/24	Yes	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

## AMD EXPO<sup>™</sup> TECHNOLOGY



# CREATOR PERFORMANCE - GENERATIONAL<sup>7</sup>



## PERFORMANCE-PER-WATT - GENERATIONAL<sup>2</sup>



## GAMING PERFORMANCE - GENERATIONAL<sup>8</sup>



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1. 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.

2. RPL-009. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD AMS Reference Motherboard with AMD Ryzen<sup>™</sup> 9 7950X with G.Skill DDR5-6000C30 (F5-6000]3038F16GX2-TZ5N) with AMD EXPO<sup>™</sup> loaded, versus ROG Maximus Z690 Hero with Core 19-12900K and G.Skill DDR5-6000C30 (F5-6000]3038F16GX2-TZ5N) with AMD EXPO<sup>™</sup> loaded. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Gigabyte RTX 3090 Gaming OC (driver 516.40), Windows<sup>®</sup> 11 22000.856, AMD Smart Access Memory/PCle<sup>®</sup> 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.

3. RPL-013. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD AM5 Reference Motherboard with AMD Ryzen<sup>™</sup> 9 7950X with G.Skill DDR5-6000C30 (F5-6000J3038F16GX2-TZ5N) with AMD EXPO<sup>™</sup> loaded, AMD AM4 Reference Motherboard with AMD Ryzen<sup>™</sup> 9 5950X and DDR4-3600C16. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Radeon<sup>™</sup> RX 6950XT (driver 22.7.1 Optional), Windows<sup>®</sup> 11 22000.856, AMD Smart Access Memory/PCle<sup>®</sup> Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. Processor power measured at the package, performance measured in Cinebench R23 nT score. Results may vary.

4. 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.

5. GD-188. For additional information about Precision Boost 2, see https://www.amd.com/en/support/kb/faq/cpu-pb2.

6. RPL-015. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD AMS Reference Motherboard with AMD Ryzen<sup>™</sup> 9 7950X and G.Skill DDR5-6000C30 (F5-6000J3038F-16GX2-TZ5N) with AMD EXPO<sup>™</sup> Enabled versus the same processor with JEDEC standard DDR5-5200. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Radeon<sup>™</sup> RX 6950XT (driver 22.7.1 Optional), Windows<sup>®</sup> 11 22000.856, AMD Smart Access Memory/PCIe<sup>®</sup> Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. All games tested at 1920x1080 resolution with the HIGH in-game preset and the newest available graphics API built into the title. Results may vary.

7. RPL-008. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD AMS Reference Motherboard with AMD Ryzen<sup>™</sup> 9 7950X with G.Skill DDR5-6000230 (F5-6000]3038F16GX2-TZ5N) with AMD EXPO<sup>™</sup> loaded, AMD AM4 Reference Motherboard with AMD Ryzen<sup>™</sup> 9 5950X and DDR4-3600C16, and ROG Maximus Z690 Hero with Core i9-12900K and G.Skill DDR5-6000C30 (F5-6000]3038F16GX2-TZ5N) with AMD EXPO<sup>™</sup> loaded. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Radeon<sup>™</sup> RX 6950XT (driver 22.71 Optional), Windows<sup>®</sup> 11 22000.856, AMD Smart Access Memory/PCle<sup>®</sup> Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. Results may vary.

AMD Smart Access Memory/PCIe® Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. Results may vary. 8. RPL-007. Testing as of 15 August, 2022, by AMD Performance Labs using the following hardware: AMD Socket AMS Reference Motherboard with AMD Ryzen<sup>™</sup> 9 7950X, Ryzen<sup>™</sup> 9 7900X, Ryzen<sup>™</sup> 5 7600X and G. Skill DDR5-6000C30 (F5-6000]3038F166X2-TZ5N) with AMD EXPO<sup>™</sup>; versus AMD Socket AM4 Reference Motherboard with Ryzen<sup>™</sup> 9 5950X, Ryzen<sup>™</sup> 9 5900X, Ryzen<sup>™</sup> 5 5500X; versus ROG Maximus Z690 Hero with Core i9-12900K and G. Skill DDR5-6000C30 (F5-6000]3038F16GX2-TZ5N) with AMD EXPO<sup>™</sup> loaded. ALL SYSTEMS configured with NXZT Kraken X63, open air test bench, Radeon<sup>™</sup> RX 6950XT (driver 22.71 Optional), Windows<sup>®</sup> 11 22000.856, AMD Smart Access Memory/PCIe<sup>®</sup> Resizable Base Address Register ("ReBAR") ON, Virtualization-Based Security (VBS) OFF. with HIGH in-game preset and the chronologically newest graphics industry API available within the game's rendering engine (e.g. Vulkan<sup>®</sup> over OpenCL<sup>™</sup>, DirectX<sup>®</sup> 12 over DirectX<sup>®</sup> 11). Results may vary.

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