



AMD Ryzen 7 7700X Processor Specifications And DataSheet

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AMD Ryzen 7 7700X Processor



General Specifications

CONNECTIVITY

- Platform: Desktop

GRAPHICS CAPABILITIES

- Market Segment: Enthusiast Desktop

PRODUCT IDS

- Product Family: AMD Ryzen™ Processors

KEY FEATURES

- Product Line: AMD Ryzen™ 7 Desktop Processors
- AMD PRO Technologies: No
- Consumer Use: Yes
- Regional Availability: Global
- Former Codename: “Raphael AM5”
- Architecture: “Zen 4”
- # of CPU Cores:8
- Multithreading (SMT): Yes
- # of Threads: 16
- Max. Boost Clock : Up to 5.4GHz

- Base Clock: 4.5GHz
- L1 Cache: 512KB
- L2 Cache: 8MB
- L3 Cache: 32MB
- Default TDP: 105W
- Processor Technology for I/O Die: TSMC 6nm FinFET
- CPU Compute Die (CCD) Size: 71mm²
- I/O Die (IOD) Size: 122mm²
- Package Die Count: 2
- Unlocked for Overclocking: Yes
- AMD EXPO™ Memory Overclocking Technology: Yes
- Precision Boost Overdrive: Yes
- Curve Optimizer Voltage Offsets: Yes
- AMD Ryzen™ Master Support: Yes
- Supporting Chipsets: X670E, X670, B650E, B650
- CPU Boost Technology: Precision Boost 2
- Instruction Set: x86-64
- Supported Extensions: AES, AMD-V, AVX, AVX2, AVX512, FMA3, MMX(+), SHA, SSE, SSE2, SSE3, SSE4.1, SSE4.2, SSE4A, SSSE3, x86-64
- Thermal Solution (PIB): Not included
- Max. Operating Temperature (Tjmax): 95°C
- Launch Date: 9/27/2022
- *OS Support: Windows 11 – 64-Bit Edition Windows 10 – 64-Bit Edition RHEL x86 64-Bit Ubuntu x86 64-Bit
- *Operating System (OS) support will vary by manufacturer.

Connectivity

- USB Type-C® Support: Yes
- Native USB 3.2 Gen 2 (10Gbps) Ports: 4
- Native USB 3.2 Gen 1 (5Gbps) Ports: 0
- Native USB 2.0 (480Mbps) Ports: 1
- Native SATA Ports: 0
- Native PCIe® Lanes (Total/Usable): 28/24
- Additional Usable PCIe Lanes from Motherboard:
 - AMD X670E: 12x Gen4
 - AMD X670: 12x Gen4
 - AMD B650E: 8x Gen4
 - AMD B650: 8x Gen4
- NVMe Support: Boot, RAID0, RAID1, RAID10
- Memory Channels: 2
- Max. Memory: 128GB
- System Memory Subtype: UDIMM
- Max Memory Speed:

1x1R 5200 MT/s

2x1R: 53260000 MMTT//ss

2x2R: 3600 MT/s

- ECC Support: Yes (Requires mobo support)

Graphics Capabilities

- Integrated Graphics: Yes
- Graphics Model: AMD Radeon™ Graphics
- Graphics Core Count: 2
- Graphics Frequency: 2200 MHz
- GPU Base: 400 MHz
- USB Type-C® DisplayPort™ Alternate Mode: Yes

Product IDs

- Product ID Boxed: 100-100000591WOF
- Product ID Tray: 100-000000591

Key Features

- Supported Technologies: AMD EXPO™ Technology AMD Ryzen™ Technologies
- Our Company (/en/corporate/about-and-revamp)
- Newsroom (/en/corporate/newsroom)
- Careers (/en/corporate/careers)
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Fair and Open Competition (/en/corporate/competition) UK Tax Strategy (<https://www.amd.com/system/files/documents/amd-uk-tax-strategy.pdf>)

Frequently Asked Questions

Is the Ryzen 7 7700X good for gaming?

The Ryzen 7 7700X also has integrated graphics, a 2-core Radeon Graphics with a base frequency of 400MHz and can boost up to 2,200MHz. It's nice AMD included an iGPU. However, it's not really useful when it comes to gaming. It is useful when your primary GPU fails, and you need to troubleshoot the system.

Does the 7700X run hot?

Temperature. Speaking of temperature: the topline takeaway from several other Ryzen reviews was that these chips ran hot, something AMD says is by design and won't harm the CPU over time. At their default settings, the chips usually do run between 90° and 95° C in our tests when all their cores are engaged.

What is the thermal limit for Ryzen?

Level 1 will set the maximum target temperature to 90° Celsius, a modest step down from the default 95° Celsius. Levels 2 and 3 lower the maximum CPU temperatures more aggressively, down to 80° and 70° Celsius, respectively. And that's it—save your settings and exit BIOS. You're good to go.

Is Ryzen 7 7700X good for video editing?

Absent a six-core member of the family in the \$200 range, AMD's eight-core, 16-thread processors usually represent a sweet spot in the lineup—great gaming performance without being overkill and enough cores to handle fairly heavy professional workloads like photo and video editing and rendering without feeling slow.

Should I buy Ryzen 7700X?

The Ryzen 7 7700X or Ryzen 5 7600X have the best value. Their prices are reasonable for the specs, so they are well-positioned to be the best value-minded picks of the silicon bunch. Plus, you'll want to save some cash to buy DDR5 RAM since the Ryzen 7000 series is not compatible with DDR4.

Does 7700X come with a cooler?

This includes the AMD Ryzen 5 7600X, AMD Ryzen 7 7700X, AMD Ryzen 9 7900X, and AMD Ryzen 9 7950X. AMD Ryzen 7000 series processor boxes do NOT include a cooler or heatsink, and a cooling solution must be purchased independently.

How many watts is the Ryzen 7 7700?

The AMD Ryzen 7 7700 is an 8-core processor with 16 cores, the ability to boost up to 5.3GHz, and yet has a TDP of just 65W. It's a solid mid-range chip from AMD for general use or gaming.

What generation is Ryzen 7 7700X?

There is some benefit to gaming with the extra cores, but your money would be best spent on a more powerful graphics card. Whilst cheaper, the Ryzen 7 7700X is no slouch, besting Intel's flag-ship 12th generation desktop CPU in all but the most demanding applications.

Is Ryzen 7 good for video editing?

This system uses the AMD Ryzen 7 5800X which performs better in most video editing situations than the Intel i9-10900K due to the higher IPC and inclusion of 8 processor cores and 16 threads and the inclusion of a larger processor cache.

How much power does 7700X draw idle?

On average the AMD Ryzen 7 7700X was drawing around 91 Watts under load, during the brief idle periods dipped as low as 5.5 Watts, and had a peak recorded power consumption of 146 Watts.

Does Ryzen produce less heat?

AMD Ryzen CPUs run cooler than their Intel equivalents, so are MORE suited to hot countries. As with any electronics, they need suitable cooling, and depending on the ambient temperature, the free AMD cooler may not be enough – although it is enough for most places outside of the equatorial region.

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