


Intel Core i9-13900

Benchmarks for the Intel Core i9-13900 can be found below. Release dates, price and performance comparisons are also listed when available. This is made using thousands of [PerformanceTest](#) benchmark results and is updated daily.

- The first graph shows the relative performance of the CPU compared to the 10 other common (single) CPUs in terms of PassMark CPU Mark.
- The 2nd graph shows the value for money, in terms of the CPUMark per dollar.
- The pricing history data shows the price for a single Processor. For multiple Processors, multiply the price shown by the number of CPUs.

Is the Intel Core i9-13900 Good for Gaming?

This is relatively new CPU that contains 24 Cores and 32 Threads. The Intel Core i9-13900 also has great single threaded performance that will serve well in games. Paired with a good [videocard](#), *is this CPU Good for Gaming?* Yes, this is a high end chip that would be great for gaming. [\[More ...\]](#)

Intel Core i9-13900		Average CPU Mark	
Description: Intel UHD Graphics 770			
Class: Desktop	Socket: FCLGA1700	Multithread Rating	
Total Cores: 24 Cores, 32 Threads		46951	
Performance Cores: 8 Cores, 16 Threads, 2.0 GHz Base, 5.6 GHz Turbo		Single Thread Rating	
Efficient Cores: 16 Cores, 16 Threads, 1.5 GHz Base, 4.2 GHz Turbo		4330	
Typical TDP: 65 W	TDP Up : 219 W	Samples: 361*	
Cache per CPU Package:		* Margin for error : Low	
Cache per Eff. CPU Package:		<div>+ COMPARE</div>	
L1 Instruction Cache: 8 x 32 KB	Eff. L1 Instruction Cache: 16 x 64 KB		
L1 Data Cache: 8 x 48 KB	Eff. L1 Data Cache: 16 x 32 KB		
L2 Cache: 8 x 2048 KB	Eff. L2 Cache: 4 x 4096 KB		
L3 Cache: 36 MB			
Memory Support: Max. Memory Size: 128 GB (Up to DDR5 5600 MT/s Up to DDR4 3200 MT/s, ECC Supported)			
Other names: 13th Gen Intel Core i9-13900, 13th Gen Intel(R) Core(TM) i9-13900			

CPUmark/\$Price: 86.53

🏠 CPU Benchmarks ▾

39th fastest in single threading out of 4901 CPUs
43rd fastest in out of 1399 Desktop CPUs

Last Price Change: [\\$542.61 USD](#) (2024-12-02)

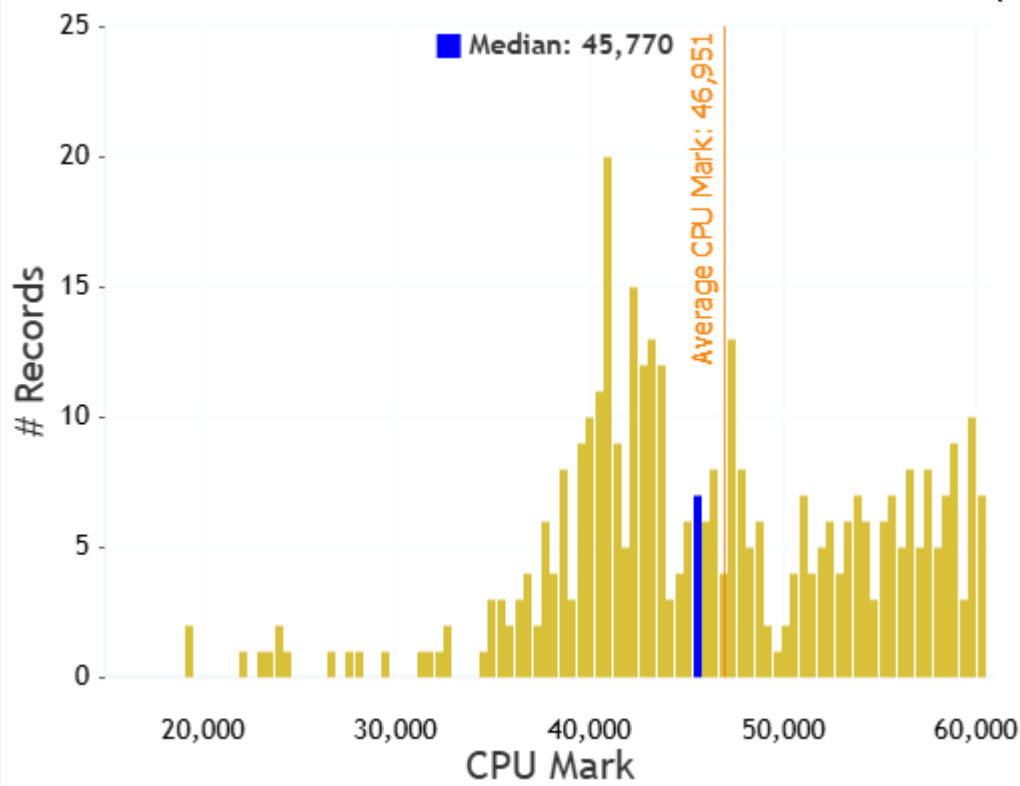
CPU Test Suite Average Results for Intel Core i9-13900

Integer Math	181,415 MOps/Sec
Floating Point Math	124,567 MOps/Sec
Find Prime Numbers	192 Million Primes/Sec
Random String Sorting	66,105 Thousand Strings/Sec
Data Encryption	36,543 MBytes/Sec
Data Compression	594,527 KBytes/Sec
Physics	2,550 Frames/Sec
Extended Instructions	33,738 Million Matrices/Sec
Single Thread	4,330 MOps/Sec

From submitted results to PerformanceTest V10 as of 2nd of December 2024.




CPU Mark Distribution for Intel Core i9-13900

Submitted Baseline Distribution Graph as of 10th of December 2024



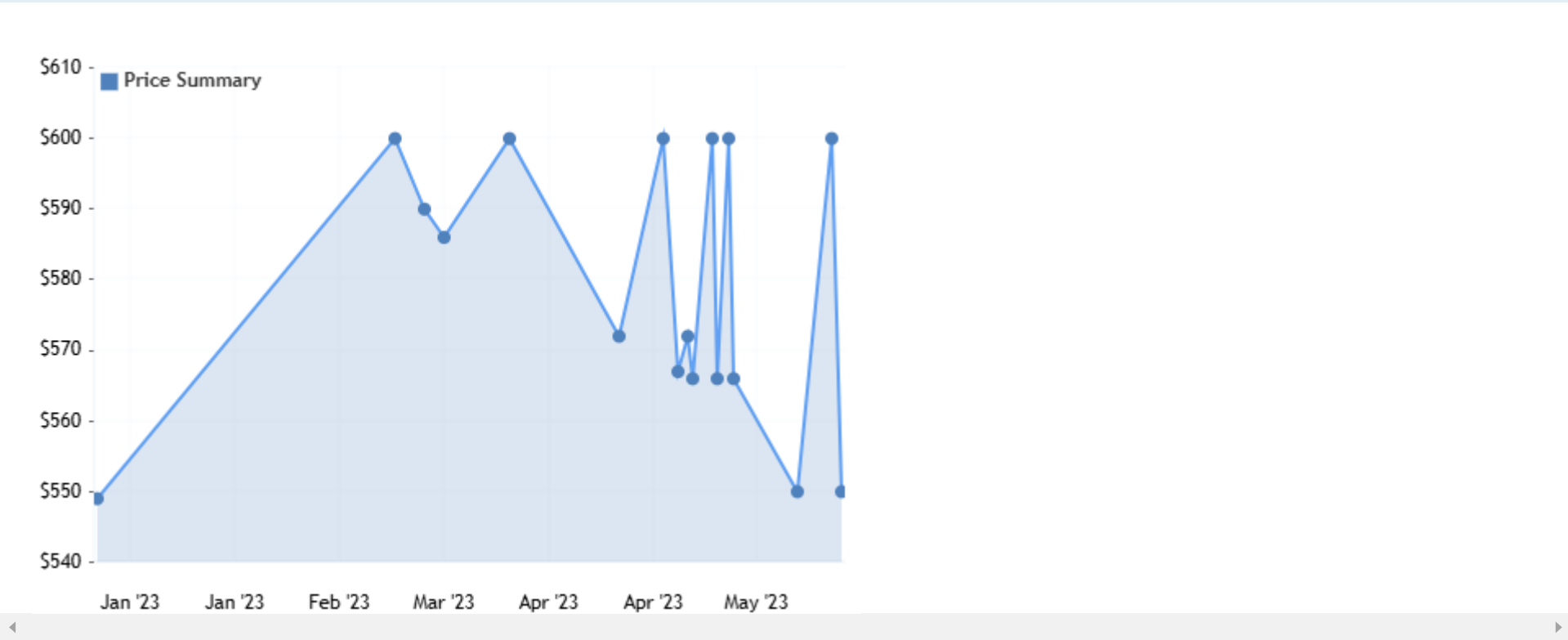
From submitted results to PerformanceTest V10 as of 10th of December 2024.

For distribution graph only: Results are [trimmed](#) to exclude outliers by disregarding the bottom 1% and top 1% of submissions.

Merchant	Price	Purchase
	\$542.61 USD	BUY NOW!
	\$589.99 USD	BUY NOW!
	NA	CPU Not Available. See Other Models

Note: PassMark Software may earn compensation for sales from links on this site through affiliate programs.

Pricing History



Machines with this CPU (or similar)

	Alienware Aurora R16 Gaming Desktop PC - Intel Core i9-13900 24-Core up to 5.60 GHz, 64GB RAM, 1TB NVMe SSD + 2TB HDD, GeForce RTX 4070 12GB GDDR6X, Windows 11 Home, Liquid Cooling, Basalt Black	\$2487.00 (www.amazon.com)
	HP 2024 Elite Mini 800 G9 PC Business Desktop Computer, 13th Gen Intel 24-Core i9-13900 up to 5.6GHz, 64GB DDR5 RAM, 1TB PCIe SSD, WiFi 6, Bluetooth, Keyboard and Mouse, Windows 11 Pro, AZ-XUT	\$1289.00 (www.amazon.com)
	HP Elite Mini 800 G9 PC Business Desktop Computer, 13th Gen Intel 24-Core i9-13900 up to 5.6GHz, 64GB DDR5 RAM, 1TB SSD, WiFi 6, Bluetooth, Type-C, Keyboard and Mouse, Windows 11 Pro, Tilsiy	\$1319.00 (www.amazon.com)
	Lenovo ThinkStation P3 Tiny Workstation Intel Core i9-13900 2.0GHz 32GB RAM 1TB SSD NVIDIA T400 4GB Windows	\$1556.99



CPU Mark Relative to Top 10 Common Desktop CPUs

As of 10th of December 2024 - Higher results represent better performance

Processor	Average CPU Mark	
Intel Core i9-13900K	<div></div>	58,998
Intel Core i9-13900	<div></div>	46,951
Intel Core i9-12900K	<div></div>	41,470
AMD Ryzen 9 5900X	<div></div>	39,109
Intel Core i7-12700K	<div></div>	34,596
Apple M1 Max 10 Core 3200 MHz	<div></div>	22,085
AMD Ryzen 5 5600X	<div></div>	21,888
Intel Core i9-9900K @ 3.60GHz	<div></div>	18,257
AMD Ryzen 5 3600	<div></div>	17,746
Apple M2 8 Core 3500 MHz	<div></div>	15,569
Apple M1 8 Core 3200 MHz	<div></div>	14,152

CPU Value (CPU Mark / \$Price)

As of 10th of December 2024 - Higher results represent better value

Processor	CPU Mark / \$Price	
AMD Ryzen 5 5600X	<div></div>	208.45
AMD Ryzen 5 3600	<div></div>	197.20
Intel Core i9-12900K	<div></div>	148.20
AMD Ryzen 9 5900X	<div></div>	145.39
Intel Core i9-13900K	<div></div>	132.58
Intel Core i9-13900	<div></div>	86.53
Intel Core i7-12700K	<div></div>	84.59
Intel Core i9-9900K @ 3.60GHz	<div></div>	18.46

	Apple M1 8 Core 3200 MHz	<div></div>	NA	
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Apple M1 Max 10 Core 3200 MHz	<div></div>	NA
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Single Thread Rating

As of 10th of December 2024 - Higher results represent better performance

Processor	Average Thread Rating	
Intel Core i9-13900K	<div></div>	4,620
Intel Core i9-13900	<div></div>	4,330
Intel Core i9-12900K	<div></div>	4,160
Intel Core i7-12700K	<div></div>	4,028
Apple M2 8 Core 3500 MHz	<div></div>	3,902
Apple M1 Max 10 Core 3200 MHz	<div></div>	3,836
Apple M1 8 Core 3200 MHz	<div></div>	3,686
AMD Ryzen 9 5900X	<div></div>	3,469
AMD Ryzen 5 5600X	<div></div>	3,361
Intel Core i9-9900K @ 3.60GHz	<div></div>	2,928
AMD Ryzen 5 3600	<div></div>	2,567

Last 5 Baselines for Intel Core i9-13900

Most recent listed first

Baseline	CPU Mark	
BL2270784 - Dec 09 2024	<div></div>	37780
BL2270744 - Dec 09 2024	<div></div>	60124
BL2269349 - Dec 08 2024	<div></div>	42998
BL2266885 - Dec 06 2024	<div></div>	37098
BL2266778 - Dec 05 2024	<div></div>	36721

Additional baselines can be obtained using Windows version of [PerformanceTest's Manage Baselines](#) feature.

Processor	Average CPU Mark	
Intel Core i9-13900	<div></div>	46,951
Intel Core i9-13900KF vs Intel Core i9-13900	<div></div>	58,304 (+24.2%)
AMD Ryzen 9 7900X3D vs Intel Core i9-13900	<div></div>	50,404 (+7.4%)
AMD Ryzen 9 7900 vs Intel Core i9-13900	<div></div>	48,821 (+4.0%)
Intel Core i9-13900F vs Intel Core i9-13900	<div></div>	51,201 (+9.1%)
AMD Ryzen 7 7800X3D vs Intel Core i9-13900	<div></div>	34,275 (-27.0%)
Intel Core i9-13900T vs Intel Core i9-13900	<div></div>	44,125 (-6.0%)
AMD Ryzen 7 9800X3D vs Intel Core i9-13900	<div></div>	40,216 (-14.3%)
Intel Core i9-13900K vs Intel Core i9-13900	<div></div>	58,998 (+25.7%)
AMD Ryzen 9 7900X vs Intel Core i9-13900	<div></div>	51,680 (+10.1%)
Intel Core i9-14900 vs Intel Core i9-13900	<div></div>	48,071 (+2.4%)
Intel Core i9-14900F vs Intel Core i9-13900	<div></div>	47,070 (+0.3%)
Intel Core i7-13700KF vs Intel Core i9-13900	<div></div>	46,546 (-0.9%)

Is the Intel Core i9-13900 Good for Gaming?

As of 10th of December 2024 - Higher results represent better performance

Processor	Relative Gaming Score	
AMD Ryzen 7 9800X3D	<div></div>	12,266
Intel Core Ultra 9 285K	<div></div>	11,058
AMD Ryzen 9 7900X3D	<div></div>	10,890
AMD Ryzen 5 7600X3D	<div></div>	10,681
AMD Ryzen 7 7800X3D	<div></div>	10,329
AMD Ryzen 9 7950X3D	<div></div>	9,872
Intel Core Ultra 7 265KF	<div></div>	9,751

	Intel Core Ultra 5 245KF	<div></div>	9,664	
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CPU Benchmarks



Intel Core Ultra 5 245K	<div></div>	9,267
Intel Core i9-14900KS	<div></div>	9,237
AMD Ryzen 5 5600X3D	<div></div>	8,929
Intel Core i9-13900	<div></div>	6,751

Software

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