

DATA SHEET

Tough. Ready. Scalable.

IronWolf 525 SSD



Seagate® IronWolf® 525 enables fast caching and tiered storage for best-in-class NAS performance. Designed with PCIe Gen 4 support and class-leading endurance and reliability. IronWolf 525 is the ideal choice for creative pros and businesses with demanding performance needs.



Best-Fit Applications

- Commercial and Entry-Level Enterprise NAS
- High performance Workstations and PCs
- U.2 to M.2 adapters for U.2 NVMe SSD drive bays

Key Advantages

Future-Proof Speed IronWolf 525 boosts NAS caching and tiered storage solutions to the next level with PCIe Gen 4 speeds up to 5,000 MB/s¹, while maintaining backward compatibility with PCIe Gen 3 systems

Always On, Always Accessible Designed to deliver performance in demanding 24x7 low latency, multi-user environments, enabling fast access to data any time, anywhere.

Built Tough Endurance rating of 0.7 DWPD² ensures robust performance in NAS and other intensive client workloads.

Class-Leading Reliability and Dependability Rated for 1.8M hours MTBF and includes a 5-year limited warranty for best-in-class total cost of ownership (TCO).

Purpose-Built Capacities Choose from 500 GB, 1 TB and 2 TB, ideal for primary storage or fast caching

IronWolf Health Management (IHM)³ Actively monitor and protect your NAS data with error Prevention, Intervention and Recovery recommendations.

Peace of mind with Data Recovery Includes 3-year complimentary Rescue Data Recovery Services⁴ in the event of accidental data corruption or drive damage

¹ Fresh Out of Box (FOB) sequential read, measured using CrystalDiskMark v.8.0.1 x64 with Windows 10 PCIe Gen 4 system

² Calculated from Total Bytes Written over 5 years. Refer to specifications table on page 2 for Total Bytes Written (TB).

³ IHM is enabled on all leading NAS systems. Please check with your NAS vendor or a Seagate sales representative for more details.

⁴ Rescue Data Recovery Services not available in all countries. Contact your Seagate sales representative for further details.



Specifications	2TB	1TB	500GB
Standard Model	ZP2000NM30002	ZP1000NM30002	ZP500NM30002
Interface	PCIe Gen4 x4, NVMe 1.3	PCIe Gen4 x4, NVMe 1.3	PCIe Gen4 x4, NVMe 1.3
NAND Flash Type	3D TLC	3D TLC	3D TLC
Form Factor	M.2 2280-D2	M.2 2280-D2	M.2 2280-D2
Performance (PCIe Gen4 x4)			
Sequential Read (MB/s) FOB, 128 KB QD32 ⁵	5,000	5,000	5,000
Sequential Write (MB/s) FOB, 128 KB QD32 ⁵	4,400	4,400	2,500
Random Read (IOPS) FOB, 4 KB QD32 T8 ⁵	740,000	760,000	420,000
Random Write (IOPS) FOB, 4 KB QD32 T8 ⁵	700,000	700,000	630,000
Sequential Read (MB/s) Sustained, 128 KB QD32 ⁵	4,300	4,350	3300
Sequential Write (MB/s) Sustained, 128 KB QD32 ⁵	965	995	525
Random Read (IOPS) Sustained, 4 KB QD256 ⁵	425,000	445,000	230,000
Random Write (IOPS) Sustained, 4 KB QD256 ⁵	19,500	19,500	10,800
Performance (PCIe Gen3 x4)			
Sequential Read (MB/s) FOB, 128 KB QD32 ⁵	3,400	3,400	3,400
Sequential Write (MB/s) FOB, 128 KB QD32 ⁵	3,200	3,200	2,500
Random Read (IOPS) FOB, 4 KB QD32 T8 ⁵	640,000	640,000	420,000
Random Write (IOPS) FOB, 4 KB QD32 T8 ⁵	565,000	565,000	550,000
Sequential Read (MB/s) Sustained, 128 KB QD32 ⁵	3300	3300	3250
Sequential Write (MB/s) Sustained, 128 KB QD32 ⁵	965	995	525
Random Read (IOPS) Sustained, 4 KB QD256 ⁵	425,000	445,000	230,000
Random Write (IOPS) Sustained, 4 KB QD256 ⁵	19,500	19,500	10,800
Endurance/Reliability			
Total Bytes Written (TB)	2,800	1,400	700
Non-recoverable Read Errors per Bits Read	1 per 10E16	1 per 10E16	1 per 10E16
Mean Time Between Failures (MTBF, hours)	1,800,000	1,800,000	1,800,000
Rescue Data Recovery Services (years) ⁷	3	3	3
Warranty, Limited (years)	5	5	5
Power Management			
Power Supply	3.3V	3.3V	3.3V
Active Max Average Power (W)	6.5	6.5	5.6
Average Idle Power PS3 (mW)	30	20	20
Environmental			
Temperature, Operating Internal (°C)	0°C – 70°C	0°C – 70°C	0°C – 70°C
Temperature, Non-operating (°C)	-40°C – 85°C	-40°C – 85°C	-40°C – 85°C
Shock, Non-operating: 0.5 ms (Gs)	1,500	1,500	1,500
Physical			
Height (mm/in, max)	3.58 mm/0.14 in	3.58 mm/0.14 in	3.58 mm/0.14 in
Width (mm/in, max)	22.15 mm/0.872 in	22.15 mm/0.872 in	22.15 mm/0.872 in
Length (mm/in, max)	80.15 mm/3.156 in	80.15 mm/3.156 in	80.15 mm/3.156 in
Weight (lb/g)	8.7 g/0.019 lb	8.5 g/0.018 lb	8 g/0.017 lb

⁵ Fresh Out of Box (FOB) performance of newly formatted drive measured with CrystalDiskMark v.8.0.1 x64 on Windows 10 host. Performance may vary based on SSD firmware version, system hardware and configuration.

⁶ Sustained performance measured with FIO on Linux host. Performance is based on testing under certain workload conditions and may vary based on SSD firmware version, system hardware and configuration.

⁷ Rescue Data Recovery Services not available in all countries. Contact your Seagate sales representative for further details.



Specifications			
Retail Packaging	Box Dimensions	Master Carton Dimensions	Pallet Dimensions
Length (in/mm)	0.945 in/24 mm	6.024 in/153 mm	47.992 in/1,219 mm
Width (in/mm)	4.291 in/109 mm	11.496 in/292 mm	20 in/508 mm
Depth (in/mm)	6.102 in/155 mm	5.512 in/140 mm	27.795 in/706 mm
Weight (lb/kg)	0.139 lb/0.063 kg	1.984 lb/0.9 kg	104.808 lb/47.54 kg
Quantities			
Boxes per Master Carton	10		
Master Cartons per Pallet	48		
Pallet Layers	4		

System Requirements	What's Included
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- M.2 (M key) slot, PCIe® Gen4 x4, PCIe Gen3 x4
- Windows® 10
- Linux
- Seagate® IronWolf® 525 SSD

Region	Model Number	Capacity	Limited Warranty (years)	UPC Code	EAN Code	Multi-Pack UPC
WW	ZP500NM3A002	500GB	5	763649170748	8719706427883	10763649170745
WW	ZP1000NM3A002	1TB	5	763649170755	8719706427890	10763649170752
WW	ZP2000NM3A002	2TB	5	763649170762	8719706427906	10763649170769

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