



3.5 HDD DATA SHEET

Tough. Ready. Scalable
Purpose-built for Connected-Home, SOHO,
& Small-to-Medium Business NAS
Environments



IronWolf™ is designed for consumer and commercial NAS. Delivering Tough, Ready and Scalable 24x7 performance in multi-bay, networked environments.



Best-Fit Applications

- Consumer and Commercial NAS
- Desktops and Workstations
- Multimedia Servers



Key Advantages

Optimized for NAS with AgileArray™ enables Dual-Plane Balancing and Time-Limited Error Recovery to deliver best-in-class RAID performance in multi-bay systems.

Always On, Always Accessible IronWolf drives are designed for 24x7 usage, allowing users to access their data any time, anywhere.

All-CMR Portfolio All IronWolf drives utilize Conventional Magnetic Recording (CMR) technology for consistent, best-in-class NAS performance.

Up to 24TB Broad range of capacity options to deliver scalable and cost-efficient storage solutions.

Built Tough IronWolf drives are rated for 180TB/year workload, allowing consumer and commercial NAS users to seamlessly store and work with large amounts of networked data.

Superior Reliability and Dependability IronWolf drives are rated for 1M hours MTBF and include a 3-year limited warranty for hassle-free data storage and best-in-class total cost of ownership (TCO)

Rotational Vibration (RV) sensors¹. Built-in RV sensors for vibration tolerance and consistent performance in multi-bay systems.

IronWolf Health Management (IHM)² Actively protect your NAS data with Prevention, Intervention, and Recovery recommendations to ensure peak system health.

Peace of mind with Data Recovery³ IronWolf drives include three years of complimentary Rescue Data Recovery Services - in-house secure facilities, with an industry-leading recovery rate of 95% - so you do not have to incur high recovery costs in the event of accidental data corruption or drive damage.

¹ Refer to specifications table for models supported.

² IHM is enabled on all leading NAS systems. Please check with your NAS vendor or a Seagate sales representative for more details.

³ Rescue services not available in all countries. Contact your Seagate sales representative for further details.



Specifications	24TB	20TB	16TB	12TB	8TB
Capacity	24TB	20TB	16TB	12TB	8TB
Standard Model Number	ST24000NTZ02	ST20000NTZ01	ST16000NTZ01	ST12000NTZ01	ST8000NTZ01
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features					
Drive Bays Supported	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Recording Technology	CMR	CMR	CMR	CMR	CMR
Drive Design (Air or Helium)	Helium	Helium	Helium	Helium	Air
Workload Rate Limit (WRL)	550	550	550	550	550
Rotational Vibration (RV) Sensor	Yes	Yes	Yes	Yes	Yes
Cache (MB)	512MB	256MB	256MB	256MB	256MB
Reliability/Data Integrity					
Mean Time Between Failures (MTBF, hours)	2500000hr	2500000hr	2500000hr	2500000hr	2000000hr
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E15	1 per 10E15	1 per 10E15	1 per 10E15	1 per 10E15
Power-On Hours (per year)	8760	8760	8760	8760	8760
Sector Size (Bytes per Logical Sector)	512E	512E	512E	512E	512E
Rescue Data Recovery Services(years) ³	3	3	3	3	3
Limited Warranty (years) ¹	5	5	5	5	5
Performance					
Spindle Speed (RPM)	7200RPM	7200RPM	7200RPM	7200RPM	7200RPM
Interface Access Speed (Gb/s)	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5	6.0, 3.0, 1.5
Max. Sustained Transfer Rate OD (MB/s)	285	285	270	270	255
Rotational Vibration @ 10-1500 Hz (rad/s)	12.5	12.5	12.5	12.5	12.5
Power Consumption					
Startup Current, Typical (12V, A)	2.0	2.0	2.0	2.0	2.0
Idle Power, Average (W)	6.3	5.7	5.0	5.0	7.8
Average Operating Power (W)	7.8	7.7	7.6	7.8	10.1
Standby Mode, Typical (W)	1.1	1.2	1.0	1.0	1.0
Sleep Mode, Typical (W)	1.1	1.2	1.0	1.0	1.0
Power Supply Requirements	+12V and +5V	+12V and +5V	+12V and +5V	+12V and +5V	+12V and +5V
Environmental/Temperature					
Operating Temperature (ambient, min °C)	5	0	0	0	0
Operating Temperature (drive reported, max °C) ⁴	65°C	65°C	65°C	65°C	65°C
Nonoperating Temperature (ambient, min °C)	-40°C	-40°C	-40°C	-40°C	-40°C
Nonoperating Temperature (ambient, max °C)	70°C	70°C	70°C	70°C	70°C
Environmental/Acoustics					
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	2.27	2.27	2.27	2.27	2.27
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	20	20	20	20	28
Acoustics, Seek (typical) (dBA)	26	26	26	26	30
Environmental/Shock					
Shock, Operating 2ms (Read/Write) (Gs)	40/40	40/40	50/50	50/50	70/40
Shock, Nonoperating, 1ms and 2ms (Gs)	200	200	200	200	300
Physical					
Height (mm/in)	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in	26.11mm/1.028in
Width (mm/in, max)	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in	101.85mm/4.010in
Depth (mm/in, max)	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in	146.99mm/5.787in
Weight (g/lb, typical)	685g/1.51lb	690g/1.521lb	670g/1.477lb	670g/1.477lb	720g/1.59lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet/Cartons per Layer	40/8	40/8	40/8	40/8	40/8



Specifications	4TB
Capacity	4TB
Standard Model Number	ST4000NTZ01
Interface	SATA 6Gb/s
Features	
Drive Bays Supported	Unlimited
Recording Technology	CMR
Drive Design (Air or Helium)	Air
Workload Rate Limit (WRL)	550
Rotational Vibration (RV) Sensor	Yes
Cache (MB)	256MB
Reliability/Data Integrity	
Mean Time Between Failures (MTBF, hours)	2000000hr
Nonrecoverable Read Errors per Bits Read, Max	1 per 10E15
Power-On Hours (per year)	8760
Sector Size (Bytes per Logical Sector)	512E
Rescue Data Recovery Services(years) ³	3
Limited Warranty (years) ¹	5
Performance	
Spindle Speed (RPM)	7200RPM
Interface Access Speed (Gb/s)	6.0, 3.0, 1.5
Max. Sustained Transfer Rate OD (MB/s)	250
Rotational Vibration @ 10-1500 Hz (rad/s)	12.5
Power Consumption	
Startup Current, Typical (12V, A)	2.0
Idle Power, Average (W)	5.5
Average Operating Power (W)	8.7
Standby Mode, Typical (W)	1.0
Sleep Mode, Typical (W)	1.0
Power Supply Requirements	+12V and +5V
Environmental/Temperature	
Operating Temperature (ambient, min °C)	0
Operating Temperature (drive reported, max °C) ⁴	65°C
Nonoperating Temperature (ambient, min °C)	-40°C
Nonoperating Temperature (ambient, max °C)	70°C
Environmental/Acoustics	
Vibration, Nonoperating: 10Hz to 500Hz (Grms)	2.27
Acoustics, Idle (typical, measured in Idle 1 state) (dBA)	20
Acoustics, Seek (typical) (dBA)	30
Environmental/Shock	
Shock, Operating 2ms (Read/Write) (Gs)	70/40
Shock, Nonoperating, 1ms and 2ms (Gs)	300
Physical	
Height (mm/in)	26.11mm/1.028in
Width (mm/in, max)	101.85mm/4.010in
Depth (mm/in, max)	146.99mm/5.787in
Weight (g/lb, typical)	650g/1.43lb
Carton Unit Quantity	20
Cartons per Pallet/Cartons per Layer	40/8

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