



3.5 HDD DATA SHEET

The Power of Agility for Creative Pro and SME NAS Enclosures

IronWolf[™] Pro is designed for everything business NAS. Get used to tough, ready, and scalable 24×7 performance that can handle multidrive environments across a wide range of capacities.





Best-Fit Applications

- Commercial and enterprise network-attached storage (NAS)
- 1- to 24-bay network attached storage (NAS)
- Backup, archiving, and disaster recovery
- On-premise private cloud
- Virtual storage



Key Advantages

Optimised for NAS with AgileArray[™]. AgileArray enables dual-plane balancing and RAID optimisation in multi-bay environments, with the most advanced power management possible.

Actively protect your NAS with IronWolf Health Management focusing on prevention, intervention, and recovery.¹

High performance means no lag time or downtime for users during workload traffic for the NAS. Seagate leads the competition with the highest-performing NAS drive portfolio.²

Seagate® **Rescue Data Recovery.**³ IronWolf Pro comes with extra peace of mind for any mechanical, accidental, or natural disaster. With a 90% success rate of in-house recovery, Seagate has your back with a 3-year included Rescue Data Recovery plan.⁴

Rotational Vibration (RV) sensors. First in its class of drives to include RV sensors to maintain high performance in multi-drive NAS enclosures.³

Range of capacities up to 18 TB. More capacity options means more choices that will fit within the budget. Seagate provides a scalable solution for any NAS use-case scenario.

Do more in multi-user environments. IronWolf provides a workload rate of 300 TB/year. Multiple users can confidently upload and download data to the NAS server, knowing IronWolf can handle the workload, whether you are a creative professionalor a small business.

Designed for always on, always accessible 24×7 performance. Access data on your NAS any time, remotely or on site.

1.2 M hours MTBF, 5-year limited warranty represents an improved total cost of ownership (TCO) over desktop drives with reduced maintenance costs.

- Contact your Seagate sales representative for further information.
- 2 Performance may vary depending on user's hardware configuration and operating system
- 3 Registration required to activate. Rescue recovery services not available in all countries. Contact your Seagate sales representative for further details
- ${\small 4\, Three-year\ coverage\ for\ product\ models\ shipped\ January\ 1,\ 2020,\ or\ later}$





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Specifications	18 TB	16 TB	14 TB	12 TB	10 TB
Capacity	18TB	16TB	14TB	12TB	10TB
Standard Model Number ¹	ST18000NE000	ST16000NE000	ST14000NE0008	ST12000NE0008	ST10000NE0008
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features					
Drive Bays Supported	Up to 24-bay	Up to 24-bay	Up to 24-bay	Up to 24-bay	Up to 24-bay
Recording Technology	CMR	CMR	CMR	CMR	CMR
Workload Rate Limit (WRL)	300	300	300	300	300
Rotational Vibration (RV) Sensors	Yes	Yes	Yes	Yes	Yes
Hot-Plug Support ²	Yes	Yes	Yes	Yes	Yes
Cache (MB)	256	256	256	256	256
Reliability/Data Integrity					
Mean Time Between Failures (MTBF, hours)	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Reliability Rating @ Full 24×7 Operation (AFR)	0.73%	0.73%	0.73%	0.73%	0.73%
Non-recoverable 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)	8,760	8,760	8,760	8,760	8,760
Sector Size (Bytes per Logical Sector)	512E	512E	512E	512E	512E
Rescue Services ³	Yes	Yes	Yes	Yes	Yes
Limited Warranty (years)	5	5	5	5	5
Performance		•			
Spindle Speed (RPM)	7,200	7,200	7,200	7,200	7,200
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)	260MB/s	255MB/s	255MB/s	240MB/s	240MB/s
Average Latency (ms)	4.16	4.16	4.16	4.16	4.16
Rotational Vibration @ 10-1,500 Hz (rad/s ²)	12.5	12.5	12.5	12.5	12.5
Power Consumption					
Startup Current, Typical (12V, A)	2	2	2	2	2
Idle Power, Average (W)	5.2	5	5	5	5
Average Operating Power (W)	8 W	7.6 W	7.6 W	7.8 W	7.8 W
Standby Mode, Typical (W)	1.25	1	1	1	0.8
Sleep Mode, Typical (W)	1	1	1	1	0.8
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
Environmental/Temperature					
Operating (ambient, min °C)	5	5	5	5	5
Operating (drive reported temperature °C) ⁴	65	60	60	60	60
Non-operating (ambient, min °C)	-40	-40	-40	-40	-40
Non-operating (ambient max °C)	70	70	70	70	70
Environmental/Acoustics		-	-	-	
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	2.27	2.27	2.27	2.27	2.27
Acoustics, Idle (typical, measured in Idle 1 state)	2.8 bels	2.8 bels	2.8 bels	2.8 bels	2.8 bels
Acoustics, Seek (typical)	3.2 bels	3.2 bels	3.2 bels	3.2 bels	3bels
Environmental/Shock	0.2 00.0	5.2 55.5	0.2 00.0	5.2 55.5	0000
Shock, Operating 2 ms (Read/Write) (Gs)	50/50 Gs	50/50 Gs	50/50 Gs	50/50 Gs	70/40 Gs
Shock, Non-operating, 1 ms and 2 ms (Gs)	200	200	200	200	250
Physical	200	200	200	200	230
Height (mm/in)	26.11 mm/1.028 in	26.11 mm/1.028 in	26.11 mm/1.028 in	26.11 mm/1.028 in	26.11 mm/1.028 in
	101.85 mm/4.01 in	101.85 mm/4.01 in	101.85 mm/4.01 in	101.85 mm/4.01 in	101.85 mm/4.01 in
Width (mm/in, max)	146.99 mm/5.787 in		146.99 mm/5.787 in		146.99 mm/5.787 in
Depth (mm/in, max) Weight (g/lb, typical)				146.99 mm/5.787 in	
Weight (g/lb, typical)	670 g/1.477 lb	670 g/1.477 lb	670 g/1.477 lb	670 g/1.477 lb	690 g/1.521 lb
Carton Unit Quantity	20	20	20	20	20
Cartons per Pallet / Cartons per Layer	40/8	40/8	40/8	40/8	40/8

Cartons per Pallet / Cartons per Layer 40/8

1 Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities 2 Supports Hot-Plug operation per Serial ATA Revision 3.3 specification.

³ Rescue recovery services not available in all countries. Contact your Seagate sales representative for further details. Register an IronWolf Pro drive to activate your 2-year Rescue plan at seagate.com/register. 4 Seagate does not recommend operating at sustained drive temperatures above 60C. Operating at higher temperatures may affect drive health.





Specifications	8 TB	6 TB	4 TB
Capacity	8TB	6TB	4TB
Standard Model Number	ST8000NE001	ST6000NE000	ST4000NE001
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Features			
Drive Bays Supported	Up to 24-bay	Up to 24-bay	Up to 24-bay
Recording Technology	CMR	CMR	CMR
Workload Rate Limit (WRL)	300	300	300
Rotational Vibration (RV) Sensors	Yes	Yes	Yes
Hot-Plug Support ²	Yes	Yes	Yes
Cache (MB)	256	256	128
Reliability/Data Integrity			
Mean Time Between Failures (MTBF, hours)	1,200,000	1,200,000	1,200,000
Reliability Rating @ Full 24×7 Operation (AFR)	0.73%	0.73%	0.73%
Non-recoverable Read Errors per Bits Read, Max	1 per 10E15	1 per 10E15	1 per 10E15
Power-On Hours (per year)	8,760	8,760	8,760
Sector Size (Bytes per Logical Sector)	512E	512E	512E
Rescue Services ³	Yes	Yes	Yes
Limited Warranty (years)	5	5	5
Performance			
Spindle Speed (RPM)	7,200	7,200	7,200
Interface Access Speed (Gb/s)	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)	240MB/s	220MB/s	220MB/s
Average Latency (ms)	4.16	4.16	4.16
Rotational Vibration @ 10-1,500 Hz (rad/s ²)	12.5	12.5	12.5
Power Consumption			
Startup Current, Typical (12V, A)	2	2	2
Idle Power, Average (W)	7.06	7.06	5.5
Average Operating Power (W)	9.2 W	8.1 W	9 W
Standby Mode, Typical (W)	1	1	1
Sleep Mode, Typical (W)	1	1	1
Power Supply Requirements	+12 V and +5 V	+12 V and +5 V	+12 V and +5 V
Environmental/Temperature	112 V and 10 V	112 V and 10 V	112 V and 10 V
Operating (ambient, min °C)	5	5	5
Operating (drive reported temperature °C) ⁴	60	60	60
	-40		
Non-operating (ambient, min °C) Non-operating (ambient max °C)	70	-40 70	-40 70
Environmental/Acoustics		10	10
Vibration, Non-operating: 10 Hz to 500 Hz (Grms)	2.27	2	2
Acoustics, Idle (typical, measured in Idle 1 state)	2.27	3	2.7 bels
LOGUNATURA TURE TENDICAL INFERSURED IN TORE 1 STATE1	1 0 hala		
	1.8 bels	2.7 bels	
Acoustics, Seek (typical)	1.8 bels 2.8 bels	2.7 bels 2.7 bels	2.8 bels
Acoustics, Seek (typical) Environmental/Shock	2.8 bels	2.7 bels	2.8 bels
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs)	2.8 bels 70/40 Gs	2.7 bels 70/40 Gs	2.8 bels 70/40 Gs
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating, 1 ms and 2 ms (Gs)	2.8 bels	2.7 bels	2.8 bels
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating, 1 ms and 2 ms (Gs) Physical	2.8 bels 70/40 Gs 250	2.7 bels 70/40 Gs 250	2.8 bels 70/40 Gs 300
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating, 1 ms and 2 ms (Gs) Physical Height (mm/in)	2.8 bels 70/40 Gs 250 26.11 mm/1.028 in	2.7 bels 70/40 Gs 250 26.11 mm/1.028 in	2.8 bels 70/40 Gs 300 26.11 mm/1.028 in
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating, 1 ms and 2 ms (Gs) Physical Height (mm/in) Width (mm/in, max)	2.8 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in	2.7 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in	2.8 bels 70/40 Gs 300 26.11 mm/1.028 in 101.85 mm/4.01 in
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating, 1 ms and 2 ms (Gs) Physical Height (mm/in) Width (mm/in, max) Depth (mm/in, max)	2.8 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in	2.7 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in	2.8 bels 70/40 Gs 300 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating, 1 ms and 2 ms (Gs) Physical Height (mm/in) Width (mm/in, max) Depth (mm/in, max) Weight (g/lb, typical)	2.8 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in 722 g/1.59 lb	2.7 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in 705 g/1.55 lb	2.8 bels 70/40 Gs 300 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in 643 g/1.42 lb
Acoustics, Seek (typical) Environmental/Shock Shock, Operating 2 ms (Read/Write) (Gs) Shock, Non-operating, 1 ms and 2 ms (Gs) Physical Height (mm/in) Width (mm/in, max) Depth (mm/in, max)	2.8 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in	2.7 bels 70/40 Gs 250 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in	2.8 bels 70/40 Gs 300 26.11 mm/1.028 in 101.85 mm/4.01 in 146.99 mm/5.787 in

² Supports Hot-Plug operation per Serial ATA Revision 3.3 specification.

³ Rescue recovery services not available in all countries. Contact your Seagate sales representative for further details. Register an IronWolf Pro drive to activate your 2-year Rescue plan at seagate.com/register. 4 Seagate does not recommend operating at sustained drive temperatures above 60C. Operating at higher temperatures may affect drive health.

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