

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 24x7 performance that can handle multi-drive 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.<sup>1</sup>

**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.<sup>2</sup>

**Seagate® Rescue Data Recovery.**<sup>3</sup> 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 2-year included Rescue Data Recovery plan.

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

**Range of capacities up to 14 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 professional or a small business.

**Designed for always on, always accessible 24x7 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.

<sup>1</sup> Contact your Seagate sales representative for further information.

<sup>2</sup> Performance may vary depending on user's hardware configuration and operating system.

<sup>3</sup> Registration required to activate. Rescue recovery services not available in all countries. Contact your Seagate sales representative for further details.



| Specifications   | 14TB               | 12TB               | 10TB               | 8TB                | 6TB                |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|
| Standard Model Number <sup>1</sup>                       | ST14000NE0008      | ST12000NE0008      | ST10000NE0008      | ST8000NE0008       | ST6000NE0023       |
| Interface  | SATA 6Gb/s         | SATA 6Gb/s         | SATA 6Gb/s         | SATA 6Gb/s         | SATA 6Gb/s         |
| <b>Features</b>  |                    |                    |                    |                    |                    |
| Drive Bays Supported                                     | Up to 24-bay       | Up to 24-bay       | Up to 24-bay       | Up to 24-bay       | Up to 24-bay       |
| Multi-User Technology (TB/yr)                            | 300                | 300                | 300                | 300                | 300                |
| Rotational Vibration (RV) Sensors                        | Yes                | Yes                | Yes                | Yes                | Yes                |
| Hot-Plug Support <sup>2</sup>                            | Yes                | Yes                | Yes                | Yes                | Yes                |
| Cache (MB)   | 256                | 256                | 256                | 256                | 256                |
| <b>Reliability/Data Integrity</b>                        |                    |                    |                    |                    |                    |
| Mean Time Between Failures (MTBF, hours)                 | 1,200,000          | 1,200,000          | 1,200,000          | 1,200,000          | 1,200,000          |
| Reliability Rating @ Full 24x7 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 (24x7)                           | 8,760              | 8,760              | 8,760              | 8,760              | 8,760              |
| Sector Size (Bytes per Logical Sector)                   | 512E               | 512E               | 512E               | 512E               | 512E               |
| Rescue Services <sup>3</sup>                             | Yes                | Yes                | Yes                | Yes                | Yes                |
| Limited Warranty (years)                                 | 5                  | 5                  | 5                  | 5                  | 5                  |
| <b>Performance</b>                                       |                    |                    |                    |                    |                    |
| 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)                   | 250MB/s            | 250MB/s            | 214MB/s            | 214MB/s            | 214MB/s            |
| Average Latency (ms)                                     | 4.16               | 4.16               | 4.16               | 4.16               | 4.16               |
| Interface Ports  | Single             | Single             | Single             | Single             | Single             |
| Rotational Vibration @ 10-1,500 Hz (rad/s <sup>2</sup> ) | 12.5               | 12.5               | 12.5               | 12.5               | 12.5               |
| <b>Power Consumption</b>                                 |                    |                    |                    |                    |                    |
| Startup Current, Typical (12V, A)                        | 2                  | 2                  | 2                  | 2                  | 2                  |
| Idle Power, Average (W)                                  | 5.3                | 5.0                | 5.0                | 4.4                | 7.5                |
| Average Operating Power (W)                              | 7.9 W              | 7.8 W              | 7.8 W              | 7.4 W              | 8.1 W              |
| Standby Mode (W)   | 0.8                | 0.8                | 0.8                | 0.8                | 0.6                |
| Sleep Mode (W)   | 0.8                | 0.8                | 0.8                | 0.8                | 0.6                |
| 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     |
| <b>Environmental/Temperature</b>                         |                    |                    |                    |                    |                    |
| Operating (ambient, min °C)                              | 5                  | 5                  | 5                  | 5                  | 5                  |
| Operating (drive case, max °C)                           | 60                 | 60                 | 60                 | 60                 | 60                 |
| Non-operating (ambient, min °C)                          | -40                | -40                | -40                | -40                | -40                |
| Non-operating (ambient max °C)                           | 70                 | 70                 | 70                 | 70                 | 70                 |
| <b>Environmental/Acoustics</b>                           |                    |                    |                    |                    |                    |
| Vibration, Non-operating: 10 Hz to 500 Hz (Grms)         | 2.27               | 2.27               | 2.27               | 2.27               | 3                  |
| Idle (typical) <sup>3</sup>                              | 1.8 bels           | 1.8 bels           | 1.8 bels           | 1.8 bels           | 2.7 bels           |
| Seek (typical)   | 2.8 bels           | 2.8 bels           | 2.8 bels           | 2.8 bels           | 2.7 bels           |
| <b>Environmental/Shock</b>                               |                    |                    |                    |                    |                    |
| Shock, Operating 2 ms (Read/Write) (Gs)                  | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           | 70/40 Gs           |
| Shock, Non-operating, 1 ms and 2 ms (Gs)                 | 250                | 250                | 250                | 250                | 250                |
| <b>Physical</b>  |                    |                    |                    |                    |                    |
| 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  |
| Width (mm/in, max)                                       | 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  |
| Depth (mm/in, max)                                       | 146.99 mm/5.787 in | 146.99 mm/5.787 in | 146.99 mm/5.787 in | 146.99 mm/5.787 in | 146.99 mm/5.787 in |
| Weight (lb/g)  | 690 g/1.521 lb     | 690 g/1.521 lb     | 690 g/1.521 lb     | 650 g/1.433 lb     | 705 g/1.55 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               |

<sup>1</sup> Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities.

<sup>2</sup> Supports Hot-Plug operation per Serial ATA Revision 2.6 specification.

<sup>3</sup> 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](http://seagate.com/register).



| Specifications   | 4TB                | 2TB                |
|--|--------------------|--------------------|
| Standard Model Number <sup>1</sup>                       | ST4000NE0025       | ST2000NE0025       |
| Interface  | SATA 6Gb/s         | SATA 6Gb/s         |
| <b>Features</b>  |                    |                    |
| Drive Bays Supported                                     | Up to 24-bay       | Up to 24-bay       |
| Multi-User Technology (TB/yr)                            | 300                | 300                |
| Rotational Vibration (RV) Sensors                        | Yes                | Yes                |
| Hot-Plug Support <sup>2</sup>                            | Yes                | Yes                |
| Cache (MB)   | 128                | 128                |
| <b>Reliability/Data Integrity</b>                        |                    |                    |
| Mean Time Between Failures (MTBF, hours)                 | 1,200,000          | 1,200,000          |
| Reliability Rating @ Full 24x7 Operation (AFR)           | 0.73%              | 0.73%              |
| Non-recoverable Read Errors per Bits Read, Max           | 1 per 10E15        | 1 per 10E15        |
| Power-On Hours per Year (24x7)                           | 8,760              | 8,760              |
| Sector Size (Bytes per Logical Sector)                   | 512E               | 512E               |
| Rescue Services <sup>3</sup>                             | Yes                | Yes                |
| Limited Warranty (years)                                 | 5                  | 5                  |
| <b>Performance</b>                                       |                    |                    |
| Spindle Speed (RPM)                                      | 7,200              | 7,200              |
| Interface Access Speed (Gb/s)                            | 6.0, 3.0, 1.5      | 6.0, 3.0, 1.5      |
| Max. Sustained Transfer Rate OD (MB/s)                   | 214MB/s            | 195MB/s            |
| Average Latency (ms)                                     | 4.16               | 4.16               |
| Interface Ports  | Single             | Single             |
| Rotational Vibration @ 10-1,500 Hz (rad/s <sup>2</sup> ) | 12.5               | 12.5               |
| <b>Power Consumption</b>                                 |                    |                    |
| Startup Current, Typical (12V, A)                        | 2                  | 2                  |
| Idle Power, Average (W)                                  | 5.45               | 4.61               |
| Average Operating Power (W)                              | 8.5 W              | 6.5 W              |
| Standby Mode (W)   | 0.6                | 0.8                |
| Sleep Mode (W)   | 0.6                | 0.8                |
| Power Supply Requirements                                | +12 V and +5 V     | +12 V and +5 V     |
| <b>Environmental/Temperature</b>                         |                    |                    |
| Operating (ambient, min °C)                              | 5                  | 5                  |
| Operating (drive case, max °C)                           | 60                 | 60                 |
| Non-operating (ambient, min °C)                          | -40                | -40                |
| Non-operating (ambient max °C)                           | 70                 | 70                 |
| <b>Environmental/Acoustics</b>                           |                    |                    |
| Vibration, Non-operating: 10 Hz to 500 Hz (Grms)         | 3                  | 3                  |
| Idle (typical) <sup>3</sup>                              | 2.7 bels           | 2.2 bels           |
| Seek (typical)   | 2.8 bels           | 2.6 bels           |
| <b>Environmental/Shock</b>                               |                    |                    |
| Shock, Operating 2 ms (Read/Write) (Gs)                  | 70/40 Gs           | 70/40 Gs           |
| Shock, Non-operating, 1 ms and 2 ms (Gs)                 | 300                | 300                |
| <b>Physical</b>  |                    |                    |
| Height (mm/in)   | 26.11 mm/1.028 in  | 26.11 mm/1.028 in  |
| Width (mm/in, max)                                       | 101.85 mm/4.01 in  | 101.85 mm/4.01 in  |
| Depth (mm/in, max)                                       | 146.99 mm/5.787 in | 146.99 mm/5.787 in |
| Weight (lb/g)  | 680 g/1.5 lb       | 550 g/1.21 lb      |
| Carton Unit Quantity                                     | 20                 | 20                 |
| Cartons per Pallet / Cartons per Layer                   | 40/8               | 40/8               |

<sup>1</sup> Seagate recommends validating your configuration with your HBA/RAID controller manufacturer to ensure full capacity capabilities.

<sup>2</sup> Supports Hot-Plug operation per Serial ATA Revision 2.6 specification.

<sup>3</sup> 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](http://seagate.com/register).

AMERICAS Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000  
ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888  
EUROPE, MIDDLE EAST, AND AFRICA Seagate Technology SAS 16-18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

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