



## Highlights

- **Available in capacities ranging from 2TB to 12TB[1]**
- **For RAID-optimized NAS systems with up to 8 bays**
- **Rated for 180TB/year workload[2] and 1M hours MTBF[4]**

## Ideal for:

- **Home Offices and Power Users**
- **Small to Medium Businesses**
- **Consumer and Commercial NAS systems**


# WD Red® Plus

## Powerful hard drives designed for performance, reliability and power efficiency.

WD Red® Plus drives are designed to handle workloads of power users and small to medium business NAS environments. WD Red Plus drives deliver the speed and capacity required to store, protect and share growing amounts of data in mid-sized RAID-optimized NAS systems with increased power efficiency.

### Tuned for NAS with NASware™

Western Digital's exclusive NASware™ technology **fine tunes drive parameters** to match NAS system workloads which helps increase performance and reliability.

### Designed for Continuous Operation

Since your NAS system is always on, a reliable drive is essential. WD Red Plus hard drives are **designed for systems that operate 24×7**, giving users the confidence of knowing they can reliably access their data.

### Tested for Dependable Compatibility

Western Digital partners with a wide range of NAS system vendors for **extensive testing** to ensure compatibility with most NAS enclosures.

### Optimized for Lower TCO

WD Red Plus drives are engineered to use less power (versus previous models) and run cooler, which **reduces operating costs** and helps reduce heat in thermally challenged NAS boxes.

### Powered for Strong Performance

Despite using less power, the drives have **plenty of bandwidth** to handle the mixed performance demands of multi-drive NAS systems.

### Balanced for Increased Reliability

Hard drives that are not properly balanced may cause excessive vibration and noise in multi-drive systems, which could reduce hard drive life span and degrade the performance over time. Our enhanced **dual-plane balance control** technology significantly improves balance and increases overall drive performance and reliability.

### Backed by World-Class Support and Warranty

As an **industry-leading hard drive manufacturer**, Western Digital stands behind their NAS storage solutions with the assurance of a 3-year limited warranty[5] and world-class support services for hassle free data storage.

# WD Red® Plus

## Specifications

| Model Number[4] | WD120EFGX | WD120EFBX | WD100EFGX | WD101EFBX | WD80EFPX | WD80EFZZ | WD60EFPX | WD60EFZX | WD40EFPX | WD20EFPX |
|---|---|---|---|---|---|---|---|---|---|---|
| Formatted capacity[1] | 12TB | 12TB | 10TB | 10TB | 8TB | 8TB | 6TB | 6TB | 4TB | 2TB |
| Recording technology | CMR | CMR | CMR | CMR | CMR | CMR | CMR | CMR | CMR | CMR |
| Interface | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s | SATA 6 Gb/s |
| Form factor | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch |
| Drive Technology | Air | Helium | Air | Air | Air | Air | Air | Air | Air | Air |
| Native command queuing | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Advanced Format (AF) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RoHS compliant[5] | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Performance** | | | | | | | | | | |
| Internal transfer rate[6] up to | 260MB/s | 196MB/s | 260MB/s | 215MB/s | 215MB/s | 185MB/s | 180MB/s | 185MB/s | 180MB/s | 180MB/s |
| Cache (MB)[1] | 512MB | 256MB | 512MB | 256MB | 256MB | 128MB | 256MB | 128MB | 256MB | 64MB |
| RPM | 7200[7] | 7200 | 7200 | 7200 | 5640 | 5640 | 5400 | 5640 | 5400 | 5400 |
| **Reliability/Data Integrity** | | | | | | | | | | |
| Load/unload cycles[8] | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 | 600,000 |
| Non-recoverable errors per bits read | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ | <1 in $10^{14}$ |
| MTBF (hours)[9] | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 |
| Workload rate (TB/year)[2] | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| Limited warranty (years)[3] | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **Power Management[10]** | | | | | | | | | | |
| 12VDC ±5% (A, peak) | 1.9 | 1.84 | 1.9 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.2 |
| Average power requirements (W) | | | | | | | | | | |
| Read/Write | 8.8 | 6.3 | 8.8 | 8.4 | 5.2 | 6.2 | 4.7 | 6.2 | 4.7 | 4.0 |
| Idle | 6.1 | 2.9 | 6.1 | 4.6 | 3.4 | 4.1 | 3.1 | 4.1 | 3.1 | 2.4 |
| Standby and Sleep | 0.3 | 0.6 | 0.3 | 0.5 | 0.4 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 |
| **Environmental Specifications** | | | | | | | | | | |
| Temperature (°C) | | | | | | | | | | |
| Operating | 0 to 65 | 0 to 65 | 0 to 65 | 0 to 65 | 0 to 65 | 0 to 65 | 0 to 65 | 0 to 65 | 0 to 65 | 0 to 65 |
| Non-operating | -40 to 70 | -40 to 70 | -40 to 70 | -40 to 70 | -40 to 70 | -40 to 70 | -40 to 70 | -40 to 70 | -40 to 70 | -40 to 70 |
| Shock (Gs) | | | | | | | | | | |
| Operating, (2 ms, read/write) | 70 | 30 | 70 | 30 | 70 | 70 | 70 | 70 | 70 | 70 |
| Operating, (2 ms, read) | 70 | 65 | 70 | 65 | 70 | 70 | 70 | 70 | 70 | 70 |
| Non-operating (2 ms) | 250 | 300 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 300 |
| Acoustics (dBA) | | | | | | | | | | |
| Idle | 34 | 20 | 34 | 34 | 24 | 25 | 23 | 25 | 23 | 21 |
| Seek (average) | 39 | 29 | 39 | 38 | 28 | 30 | 27 | 30 | 27 | 26 |
| **Physical Dimensions** | | | | | | | | | | |
| Height (in./mm, max) | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 | 1.028 / 26.1 |
| Length (in./mm, max) | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 | 5.787 / 147 |
| Width (in./mm, ± .01 in.) | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 | 4 / 101.6 |
| Weight (lb/kg , ± 10%) | 1.65 / 0.75 | 1.46 / 0.66 | 1.65 / 0.75 | 1.65 / 0.75 | 1.58 / 0.715 | 1.65 / 0.75 | 1.65 / 0.75 | 1.65 / 0.75 | 1.26 / 0.57 | 0.99 / 0.45 |

**Specifications subject to change without notice.**

1 1MB = 1 million bytes, 1GB = 1 billion bytes and 1TB = 1 trillion bytes. Actual user capacity may be less depending on operating environment.

2 Workload rate is defined as the amount of user data transferred to or from the hard drive. Workload rate is annualized (TB transferred X (8760 / recorded power-on hours)). Workload rate will vary depending on your hardware and software components and configurations.

3 See support.wdc.com/warranty for regionally specific warranty details.

4 Not all products may be available in all regions of the world.

5 This hard drive product meets or exceeds Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU and Directive (EU) 2015/863.

6 Up to stated speed. As used for transfer rate, 1 MB/s = 1 million bytes per second. Based on internal testing; performance may vary depending upon host device, usage conditions, drive capacity and other factors.

7 Actual spindle motor rotational speed for this model is 7200 RPM; although ID Device may report 5400 to reflect previous Performance Class designation.

8 Controlled unload at ambient condition.

9 MTBF specifications are based on a sample population and are estimated by statistical measurements and acceleration algorithms under typical operating conditions: workload of 90TB/year and drive temperature of 40°C. Derating of MTBF will occur above these parameters, up to 65°C drive temperature. MTBF does not predict an individual drive's reliability and does not constitute a warranty. Not all products may be available in all regions of the world.

10 Power measurements at room/ambient temperature.

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