TOSHIBA

N300
NAS Hard Drives

Built for 24/7 reliability

Toshiba N300 NAS Hard Drive offers unprecedented reliability for NAS and other high-performance storage systems. It is optimized to meet the reliability, endurance, performance and scalability requirements of 24-hour/7-day high-capacity storage. Suitable for personal, home office and small business use. The N300 is available in capacities of up to 22 TB.

50+ YEARS OF TOSHIBA STORAGE INNOVATION

Use for

- NAS and Multimedia Server
- Desktop RAID and Server
- Private Cloud Storage
- Small Business Server and Storage

Top Features

- Designed for 24/7 operation
- Up to 8 drive bays
- Workload up to 180 TB/year
- MTTF/MTBF up to 1.2 million hours
- 7200 rpm speed with up to 512 MiB buffer
- CMR technology
- 3.5-inch Form Factor

Capacities

22 TB	20 TB	18 TB	16 TB	14 TB
12 TB	10 TB	8 TB	6 TB	4 TB

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📇 NAS Hard Drives

Capacity *1	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
Parts Number	HDWG62CUZSVA	HDWG62AUZSVA	HDWG51JUZSVA	HDWG51GUZSVA	HDWG31GUZSVA	HDWG51EUZSVA	HDWG21EUZSVA	HDWG51CUZSVA	HDWG21CUZSVA
Part Number (Retail Package) *2	HDWG62C*ZSTA	HDWG62A*ZSTA	HDWG51J*ZSTA	HDWG51G*ZSTA	HDWG31G*ZSTA	HDWG51E*ZSTA	HDWG21E*ZSTA	HDWG51C*ZSTA	HDWG21C*ZSTA

Basic Specifications

	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
Recording Technology	CMR	CMR	CMR	CMR	CMR	CMR	CMR	CMR	CMR
Interface	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Mechanical Design	He	He	He	He	He	He	He	He	He
Form Factor *3	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
Sector Size	512e	512e	512e	512e	512e	512e	512e	512e	512e

Features

	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
Drive Bays Supported	up to 8	up to 8	up to 8	up to 8	up to 8	up to 8	up to 8	up to 8	up to 8
24 / 7 Operation	yes	yes	yes	yes	yes	yes	yes	yes	yes
Rotational Vibration Sensor	yes	yes	yes	yes	yes	yes	yes	yes	yes
Shock Sensor	yes	yes	yes	yes	yes	yes	yes	yes	yes

Performances

	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
Rotation Speed	7200 rpm	7200 rpm	7200 rpm	7200 rpm	7200 rpm	7200 rpm	7200 rpm	7200 rpm	7200 rpm
Sustained data transfer rate *4	281 MB/s (268 MiB/s)	281 MB/s (268 MiB/s)	281 MB/s (268 MiB/s)	281 MB/s (268 MiB/s)	274 MB/s (262 MiB/s)	281 MB/s (268 MiB/s)	260 MB/s (248 MiB/s)	281 MB/s (268 MiB/s)	253 MB/s (242 MiB/s)
Buffer Size *5	512 MiB	512 MiB	512 MiB	512 MiB	512 MiB	512 MiB	256 MiB	512 MiB	256 MiB

Reliability

	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
MTTF / MTBF *6	1 200 000 hours	1 200 000 hours	1 200 000 hours	1 200 000 hours	1 200 000 hours	1 200 000 hours	1 000 000 hours	1 200 000 hours	1 000 000 hours
Unrecoverable Error Rate	1 per 10E15	1 per 10E15	1 per 10E15	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14	1 per 10E14
Maximum rated workload *7	180 TB/year	180 TB/year	180 TB/year	180 TB/year	180 TB/year	180 TB/year	180 TB/year	180 TB/year	180 TB/year
Load/Unload cycles	300 000 times	300 000 times	300 000 times	300 000 times	300 000 times	300 000 times	300 000 times	300 000 times	300 000 times

Power Requirements

	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
Supply Voltage	12 VDC ±10 % / 5 VDC +10 / -7 %	12 VDC ±10 % / 5 VDC +10 / -7 %	12 VDC ±10 % / 5 VDC +10 / -7 %	12 VDC ±10 % / 5 VDC +10 / -7 %	12 VDC ±10 % / 5 VDC +10 / -7 %	12 VDC ±10 % / 5 VDC +10 / -7 %	12 VDC ±10 % / 5 VDC ±5 %	12 VDC ±10 % / 5 VDC +10 / -7 %	12 VDC ±10 % / 5 VDC ±5 %
Power Consumption — Operating	8.02 W	8.02 W	7.48 W	7.48 W	6.91 W	7.38 W	6.77 W	6.85 W	6.49 W
Power Consumption — Active Idle	4.35 W	4.41 W	4.14 W	4.14 W	4.03 W	3.77 W	4.54 W	3.3 W	4.28 W

Environmental

	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
Temperature — Operating	5 to 60 °C (Surface)	5 to 60 °C (Surface)	5 to 60 °C (Surface)	5 to 60 °C (Surface)	0 to 65 °C (Surface)	5 to 60 °C (Surface)	5 to 60 °C (Surface)	5 to 60 °C (Surface)	5 to 60 °C (Surface)
Temperature — Non-operating	-40 to 70 °C	-40 to 70 °C	-40 to 70 °C	-40 to 70 °C	-40 to 70 °C	-40 to 70 °C	-40 to 70 °C	-40 to 70 °C	-40 to 70 °C
Vibration — Operating	7.35 m/s² {0.75 G} (5 to 300 Hz); 2.45 m/s² {0.25 G} (300 to 500 Hz)								
Vibration — Non-operating	29.4 m/s² {3.0 G} (5 to 500 Hz)								
Shock — Operating	490 m/s² {50 G} (2 ms duration)	490 m/s² {50 G} (2 ms duration)	490 m/s² {50 G} (2 ms duration)	686 m/s² {70 G} (2 ms duration)	686 m/s² {70 G} (2 ms duration)	686 m/s² {70 G} (2 ms duration)	686 m/s² {70 G} (2 ms duration)	686 m/s² {70 G} (2 ms duration)	686 m/s² {70 G} (2 ms duration)
Shock — Non-operating	1960 m/s² {200 G} (2 ms duration)	1960 m/s² {200 G} (2 ms duration)	1960 m/s² {200 G} (2 ms duration)	2450 m/s² {250 G} (2 ms duration)	2450 m/s² {250 G} (2 ms duration)	2450 m/s² {250 G} (2 ms duration)	2450 m/s² {250 G} (2 ms duration)	2450 m/s² {250 G} (2 ms duration)	2450 m/s² {250 G} (2 ms duration)
Acoustics (Active Idle)	20 dB (Typ.)	20 dB (Typ.)	20 dB (Typ.)	20 dB (Typ.)	20 dB (Typ.)	20 dB (Typ.)	20 dB (Typ.)	20 dB (Typ.)	20 dB (Typ.)

Physical

	22 TB	20 TB	18 TB	16 TB	16 TB	14 TB	14 TB	12 TB	12 TB
Dimension	147 (L) x 101.85 (W) x 26.1 (H) mm (Max)								
Weight	720 g (Max)	720 g (Max)	720 g (Max)	720 g (Max)	720 g (Max)	705 g (Max)	720 g (Max)	690 g (Max)	720 g (Max)

*1 Definition of capacity: One terabyte (TB) = one trillion bytes, but storage capacity actually available may vary depending on operating environment and formatting. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

*2 The asterisk mark(*) in the parts number indicates that the alphabet varies depending on region.

*3 "3.5-inch" means the form factor of HDDs. They do not indicate drive's physical size.

*4 Read and write speed may vary depending on the host device, read and write conditions, and file size.

*5 A mebibyte (MiB) means 1 048 576 bytes.

*6 MTTF/MTBF (Mean Time to Failure/Mean Time Between Failures) is not a guarantee or estimate of product life; it is a statistical value related to mean failure rates for a large number of products which may not accurately reflect actual operation. Actual operating life of the product may be different from the MTTF/MTBF.

*7 Workload is a measure of the data throughput of the year, and it is defined as the amount of data written, read or verified by commands from the host system.

- Product image may represent a design model.
- Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for.

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NAS Hard Drives

Capacity *1		10 TB	8 TB	8 TB	6 TB	6 TB	4 TB	4 TB	4 TB
Parts Number		MN10ADA10TS HDWG71AUZSVA	MN10ADA800S HDWG780UZSVA	HDWG480UZSVA	MN10ADA600S HDWG760UZSVA	HDWG460UZSVA	MN10ADA400ES HDWG740UZSVC	HDWG440UZSVA	HDWQ140UZSVA
Part Number (Retail Package) *2		HDWG71A*ZSTA	HDWG780*ZSTA	HDWG480*ZSTA	HDWG760*ZSTA	HDWG460*ZSTA	HDWG740*ZSTC	HDWG440*ZSTA	HDWQ140*ZSTA

Basic Specifications

Recording Technology		CMR							
Interface		SATA 6.0 Gbit/s							
Mechanical Design		Air							
Form Factor *3		3.5-inch							
Sector Size		512e						512n	

Features

Drive Bays Supported		up to 8							
24 / 7 Operation		yes							
Rotational Vibration Sensor		yes							
Shock Sensor		yes							

Performances

		10 TB	8 TB	8 TB	6 TB	6 TB	4 TB	4 TB	4 TB
Rotation Speed		7200 rpm							
Sustained data transfer rate *4		281 MB/s (268 MiB/s)	260 MB/s (248 MiB/s)	281 MB/s (268 MiB/s)	250 MB/s (239 MiB/s)	281 MB/s (268 MiB/s)	232 MB/s (222 MiB/s)	204 MB/s (195 MiB/s)	
Buffer Size *5		512 MiB	256 MiB	512 MiB	256 MiB	512 MiB	256 MiB	128 MiB	

Reliability

		10 TB	8 TB	8 TB	6 TB	6 TB	4 TB	4 TB	4 TB
MTTF / MTBF *6		1 000 000 hours							
Unrecoverable Error Rate		1 per 10E15							1 per 10E14
Maximum rated workload *7		180 TB/year							
Load/Unload cycles		600 000 times	300 000 times	600 000 times	300 000 times	600 000 times	300 000 times		

Power Requirements

		10 TB	8 TB	8 TB	6 TB	6 TB	4 TB	4 TB	4 TB
Supply Voltage		12 VDC ±10 % 5 VDC +10 / -7 %	12 VDC ±10 % 5 VDC ±5 %	12 VDC ±10 % 5 VDC +10 / -7 %	12 VDC ±10 % 5 VDC ±5 %	12 VDC ±10 % 5 VDC +10 / -7 %	12 VDC ±10 % 5 VDC ±5 %		
Power Consumption	Operating	9.07 W	8.19 W	8.41 W	7.43 W	7.72 W	6.75 W	6.84 W	9.6 W
	Active Idle	5.74 W	4.92 W	5.61 W	4.14 W	4.93 W	3.49 W	4.04 W	5.2 W

Environmental

		10 TB	8 TB	8 TB	6 TB	6 TB	4 TB	4 TB	4 TB
Temperature	Operating	5 to 60 ℃ (Surface)	5 to 65 ℃ (Surface)	5 to 60 ℃ (Surface)	5 to 65 ℃ (Surface)	5 to 60 ℃ (Surface)	5 to 65 ℃ (Surface)		0 to 65 ℃ (Surface)
	Non-operating	-40 to 70 ℃							
Vibration	Operating	7.35 m/s² {0.75 G} (5 to 300 Hz) 2.45 m/s² {0.25 G} (300 to 500 Hz)	7.35 m/s² {0.75 G} (2 to 300 Hz) 4.90 m/s² {0.50 G} (300 to 350 Hz) 2.45 m/s² {0.25 G} (350 to 500 Hz)	7.35 m/s² {0.75 G} (5 to 300 Hz) 2.45 m/s² {0.25 G} (300 to 500 Hz)	7.35 m/s² {0.75 G} (2 to 300 Hz) 4.90 m/s² {0.50 G} (300 to 350 Hz) 2.45 m/s² {0.25 G} (350 to 500 Hz)	7.35 m/s² {0.75 G} (5 to 300 Hz) 2.45 m/s² {0.25 G} (300 to 500 Hz)	7.35 m/s² {0.75 G} (2 to 300 Hz) 4.90 m/s² {0.50 G} (300 to 350 Hz) 2.45 m/s² {0.25 G} (350 to 500 Hz)	7.35 m/s² {0.75 G} (5 to 300 Hz) 2.45 m/s² {0.25 G} (300 to 500 Hz)	
	Non-operating	29.4 m/s² {3.0 G} (5 to 500 Hz)							49.0 m/s² {5.0 G} (5 to 500 Hz)
Shock	Operating	686 m/s² {70 G} (2 ms duration)							
	Non-operating	2450 m/s² {250 G} (2 ms duration)							
Acoustics (Active Idle)		34 dB (Typ.)	31 dB (Typ.)	34 dB (Typ.)	31 dB (Typ.)	34 dB (Typ.)	31 dB (Typ.)		30 dB (Typ.)

Physical

		10 TB	8 TB	8 TB	6 TB	6 TB	4 TB	4 TB	4 TB
Dimension		147 (L) x 101.85 (W) x 26.1 (H) mm (Max)							
Weight		755 g (Max)	730 g (Max)	720 g (Max)	710 g (Max)	700 g (Max)	690 g (Max)	693 g (Max)	720 g (Max)

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