

TOSHIBA

Capacity to Grow. Reliability to Stay Ahead.

Toshiba N300 NAS Internal Hard Drive



When you need your technology to scale at the rate of your business, the Toshiba N300 NAS Internal Hard Drive is there every step of the way. Designed for home office and small office network attached storage and multi-RAID systems, the N300 delivers the speed to let you access your data quickly and the high workload reliability to help keep your NAS system running 24/7.

Image does not represent actual product.

TOSHIBA

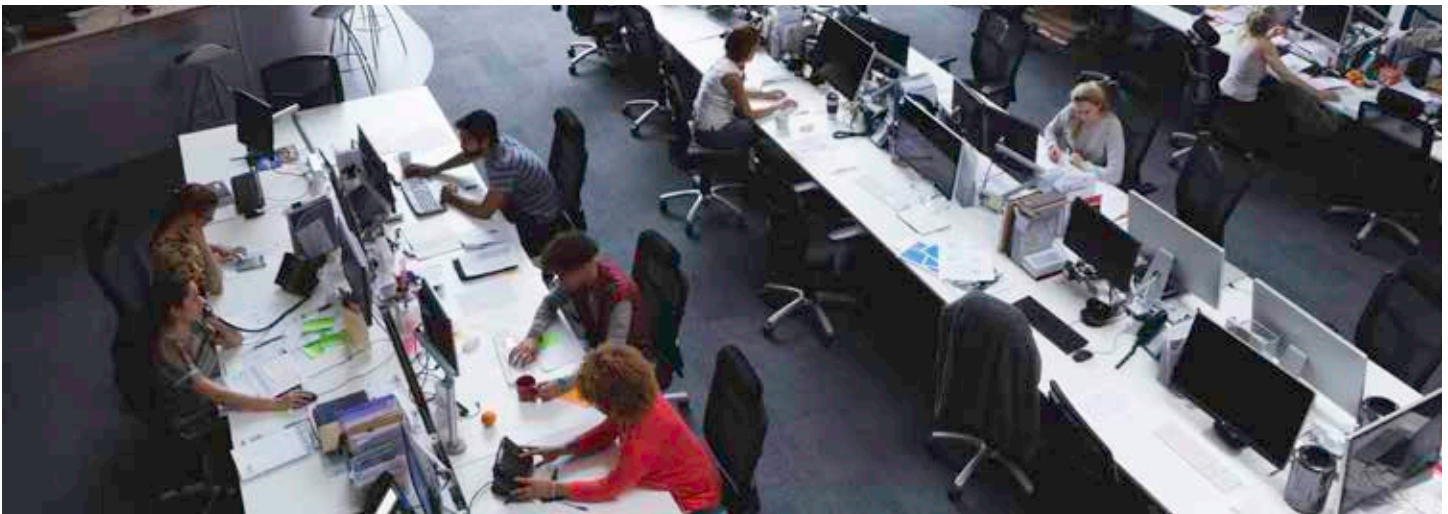
Toshiba N300 NAS Internal Hard Drive

Application

Home & small office NAS / Desktop RAID and servers /
Multimedia server storage /
Private Cloud Storage / Small Business Server and Storage



Product image may represent a design model.



High Reliability

Designed for 24/7
NAS systems



Rich Scalability

Support up to 8 drive bays⁴



High Performance

7200 RPM drive with
large cache size



Protection

Mitigate Rotational
Vibration with built-in
RV sensors



Built to Last

Workload rate up
to 180 TB/yr⁶ MTTF
Up to 1 million hours⁷



Massive Capacity

Store and access
your critical data and
important documents



Peace of Mind

Toshiba Three-year
limited warranty⁸

Toshiba N300 NAS Internal Hard Drive

Capacity ¹	<u>14TB</u>	<u>12TB</u>	<u>10TB</u>
Model Number (Retail Packaging)	HDWG21EXZSTA	HDWG21CXZSTA	HDWG11AXZSTA
Model Number (Bulk)	HDWG21EUZSVA	HDWG21CUZSVA	HDWG11AUZSVA
Basic Specifications			
Interface	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor²	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	Yes
RoHS Compatible³	Yes	Yes	Yes
Features			
Driver Bays Supported⁴	Up to 8	Up to 8	Up to 8
Rotational Vibration (RV) Sensors	Yes	Yes	Yes
Shock Sensor	Yes	Yes	Yes
Drive Stabilization Technology	Yes	Yes	Yes
Toshiba Cache Technology	Yes	Yes	Yes
Performance			
Rotational Speed [RPM]	7,200	7,200	7,200
Max Data Transfer Speed⁵ [MB/s Typ.] (Sustained)	Up to 260	Up to 253	Up to 248
Cache Size [MB]	256	256	256
Reliability			
24x7 Operation	Yes	Yes	Yes
Workloads [TB/Year]⁶	180	180	180
MTTF [Hours]⁷	1,000,000	1,000,000	1,000,000
Unrecoverable Error Rate	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴
Load/Unload Cycles	300,000	300,000	300,000
Limited Warranty⁸ [Years]	3	3	3
Power Management			
Supply Voltage	5 V DC ±5 % 12 V DC ±10 %	5 V DC ±5 % 12 V DC ±10 %	5 V DC +10 / -5 % 12 V DC ±10 %
Power Consumption (Operating) [W]	6.77	6.49	9.92
Power Consumption (Idle) [W]	4.54	4.28	7.22
Environmental			
Temperature (Operating) [°C]	5 to 60 (surface)	5 to 60 (surface)	0 to 65 (surface)
Temperature (Non-operating) [°C]	-40 to 70	-40 to 70	-40 to 70
Vibration (Operating)	7.35 m/s ² {0.75G} (5 to 300Hz) 2.45 m/s ² {0.25G} (300 to 500Hz)	7.35 m/s ² {0.75G} (5 to 300Hz) 2.45 m/s ² {0.25G} (300 to 500Hz)	7.35 m/s ² {0.75G} (5 to 300Hz) 2.45 m/s ² {0.25G} (300 to 500Hz)
Vibration (Non-Operating)	29.4 m/s ² {3.0G} (5 to 500Hz)	29.4 m/s ² {3.0G} (5 to 500Hz)	29.4 m/s ² {3.0G} (5 to 500Hz)
Shock (Operating)	686 m/s ² {70G} (2 ms duration)	686 m/s ² {70G} (2 ms duration)	686 m/s ² {70G} (2 ms duration)
Shock (Non-operating)	2,450 m/s ² {250G} (2 ms duration)	2,450 m/s ² {250G} (2 ms duration)	2,450 m/s ² {250G} (2 ms duration)
Acoustics (Idle Model) [dB]	20	20	34
Physical			
Height [mm Max.]	26.1	26.1	26.1
Length [mm Max.]	147	147	147
Width [mm Max.]	101.85	101.85	101.85
Weight [g Max.]	720	720	770
Bottom Holes Type⁹	TYPE1	TYPE1	TYPE1

Toshiba N300 NAS Internal Hard Drive

Capacity ¹	<u>8TB</u>	<u>6TB</u>	<u>4TB</u>
Model Number (Retail Packaging)	HDWN180XZSTA	HDWN160XZSTA	HDWQ140XZSTA
Model Number (Bulk)	HDWN180UZSVA	HDWN160UZSVA	HDWQ140UZSVA
Basic Specifications			
Interface	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
Form Factor²	3.5-inch	3.5-inch	3.5-inch
Advanced Format (AF)	Yes	Yes	No
RoHS Compatible³	Yes	Yes	Yes
Features			
Driver Bays Supported⁴	Up to 8	Up to 8	Up to 8
Rotational Vibration (RV) Sensors	Yes	Yes	Yes
Shock Sensor	Yes	Yes	Yes
Drive Stabilization Technology	Yes	Yes	Yes
Toshiba Cache Technology	Yes	Yes	Yes
Performance			
Rotational Speed [RPM]	7,200	7,200	7,200
Max Data Transfer Speed⁵ [MB/s Typ.] (Sustained)	Up to 241	Up to 241	Up to 204
Cache Size [MB]	128	128	128
Reliability			
24x7 Operation	Yes	Yes	Yes
Workloads [TB/Year]⁶	180	180	180
MTTF [Hours]⁷	1,000,000	1,000,000	1,000,000
Unrecoverable Error Rate	1 per 10 ¹⁴	1 per 10 ¹⁴	1 per 10 ¹⁴
Load/Unload Cycles	300,000	300,000	300,000
Limited Warranty⁸ [Years]	3	3	3
Power Management			
Supply Voltage	5 V DC ±5 % 12 V DC ±10 %	5 V DC ±5 % 12 V DC ±10 %	5 V DC ±5 % 12 V DC ±10 %
Power Consumption (Operating) [W]	9.20	10.1	9.6
Power Consumption (Idle) [W]	6.20	6.7	5.2
Environmental			
Temperature (Operating) [°C]	0 to 65 (surface)	0 to 65 (surface)	0 to 65 (surface)
Temperature (Non-operating) [°C]	-40 to 70	-40 to 70	-40 to 70
Vibration (Operating)	7.35 m/s ² {0.75G} (5 to 300Hz) 2.45 m/s ² {0.25G} (300 to 500Hz)	7.35 m/s ² {0.75G} (5 to 300Hz) 2.45 m/s ² {0.25G} (300 to 500Hz)	7.35 m/s ² {0.75G} (5 to 300Hz) 2.45 m/s ² {0.25G} (300 to 500Hz)
Vibration (Non-Operating)	49.0 m/s ² {5.0G} (5 to 500Hz)	49.0 m/s ² {5.0G} (5 to 500Hz)	49.0 m/s ² {5.0G} (5 to 500Hz)
Shock (Operating)	686 m/s ² {70G} (2 ms duration)	686 m/s ² {70G} (2 ms duration)	686 m/s ² {70G} (2 ms duration)
Shock (Non-operating)	2,450 m/s ² {250G} (2 ms duration)	2,450 m/s ² {250G} (2 ms duration)	2,450 m/s ² {250G} (2 ms duration)
Acoustics (Idle Model) [dB]	33	33	30
Physical			
Height [mm Max.]	26.1	26.1	26.1
Length [mm Max.]	147	147	147
Width [mm Max.]	101.85	101.85	101.85
Weight [g Max.]	770	770	720
Bottom Holes Type⁹	TYPE1	TYPE1	TYPE2

¹ One Gigabyte (1GB) means $10^9 = 1,000,000,000$ bytes and One Terabyte (1TB) means $10^{12} = 1,000,000,000,000$ bytes using powers of 10. A computer operating system, however, reports storage capacity using powers of 2 for the definition of $1GB = 2^{30} = 1,073,741,824$ bytes and $1TB = 2^{40} = 1,099,511,627,776$ bytes, and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system and other factors.

² 2.5-inch and 3.5-inch mean the form factor of HDDs. They do not indicate drive's physical size.

³ Toshiba Storage & Electronic Devices Solutions Company defines "RoHS-Compatible" products as products that either (i) contain no more than a maximum concentration value of 0.1% by weight in Homogeneous Materials for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) and of 0.01% by weight in Homogeneous Materials for cadmium; or (ii) fall within any of the application exemptions set forth in the Annex to the RoHS Directive (Directive 2011/65/EC of the European Parliament and of the Council of 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment). "Homogeneous Material" means a material of uniform composition that cannot be mechanically disjoined (meaning separated, in principle, by mechanical actions such as unscrewing, cutting, crushing, grinding and/or abrasive processes) into different materials. Examples of "Homogeneous Materials" would be individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.

⁴ As for "Drive Bays Supported", please contact your Solutions Provider because the compatibility with the host device will vary based on the system.

⁵ The maximum sustained data rate and interface speed may be restricted to the response speed of host system and by transmission characteristics. Read and write speed may vary depending on the host device, read and write conditions, and file size.

⁶ Annual Workload Rating: HDDs keep track of various drive usage such as power on hours, lifetime writes and lifetime reads from the host computer. With this data we calculate an Annualized Workload Rate, under 40 deg. C ambient environments, $\text{Annualized Workload Rate} = (\text{Lifetime Writes} + \text{Lifetime Reads}) * (8760 / \text{Lifetime Power On Hours})$ in case Power On time is 8760h or longer. Otherwise (i.e. Power On time is shorter than 8760h),

$\text{Annualized Workload Rate} = (\text{Lifetime Writes} + \text{Lifetime Reads})$ Each drive is designed to perform up to the Annualized Workload Rate stated, after which the drive may be expected to decline. The Annualized Workload Rate in no way alters the warranty policy for such drive. Workload is defined as the amount of data written, read or verified by commands from host system.

⁷ MTTF (Mean Time to Failure) 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.

⁸ Standard limited warranty applies. The warranty brochure can be viewed online at <http://storage.toshiba.com/consumer-hdd/warranty-info>.

⁹ Location of bottom mounting hole is different from product. For more information, please see the following page. <https://toshiba.semicon-storage.com/us/design-support/faq/storage-holes.html>

Product prices, specifications, configurations, colors, components, features, and availability are subject to change without notice.

Compatibility may vary depending on user's hardware configuration and operating system.

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