

**TOSHIBA**

# Capacity to Grow. Reliability to Stay Ahead.

Toshiba N300 NAS Internal Hard Drive



Image does not represent actual product.

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<sup>10</sup>.

# 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<sup>10</sup>



### Rich Scalability

Support up to 8 drive bays<sup>4</sup>



### 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/yr<sup>6,10</sup>. MTTF  
Up to 1 million hours<sup>7</sup>



### Massive Capacity


Store and access  
your critical data and  
important documents



### Peace of Mind

Toshiba Three-year  
limited warranty<sup>8</sup>

## Toshiba N300 NAS Internal Hard Drive

Capacity <sup>1</sup>	<b>14TB</b>	<b>12TB</b>	<b>10TB</b>
<b>Model Number</b> (Retail Packaging)	HDWG21EXZSTA	 HDWG21CXZSTA	HDWG11AXZSTA
<b>Model Number</b> (Bulk)	HDWG21EUZSVA	HDWG21CUZSVA	HDWG11AUZSVA

### Basic Specifications

Interface	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
<b>Form Factor</b> <sup>2</sup>	3.5-inch	3.5-inch	3.5-inch
<b>Advanced Format</b> (AF)	Yes	Yes	Yes
<b>RoHS Compatible</b> <sup>3</sup>	Yes	Yes	Yes

### Features

<b>Drive Bays Supported</b> <sup>4</sup>	Up to 8	Up to 8	Up to 8
<b>Rotational Vibration</b> (RV) Sensors	Yes	Yes	Yes
<b>Shock Sensor</b>	Yes	Yes	Yes
<b>Drive Stabilization Technology</b>	Yes	Yes	Yes
<b>Toshiba Cache Technology</b>	Yes	Yes	Yes
<b>Recording Technology</b>	CMR	CMR	CMR

### Performance

<b>Rotational Speed</b> [RPM]	7,200	7,200	7,200
<b>Max Data Transfer Speed</b> <sup>5</sup> [MB/s Typ.] (Sustained)	Up to 260	Up to 253	Up to 248
<b>Cache Size</b> [MB]	256	256	256

### Reliability

<b>24x7 Operation</b> <sup>10</sup>	Yes	Yes	Yes
<b>Workloads</b> [TB/Year] <sup>6,10</sup>	180	180	180
<b>MTTF</b> [Hours] <sup>7</sup>	1,000,000	1,000,000	1,000,000
<b>Unrecoverable Error Rate</b>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>
<b>Load/Unload Cycles</b>	300,000	300,000	300,000
<b>Limited Warranty</b> [Years] <sup>8</sup>	3	3	3

### Power Management

<b>Supply Voltage</b>	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 %
<b>Power Consumption</b> (Operating) [W]	6.77	6.49	9.48
<b>Power Consumption</b> (Idle) [W]	4.54	4.28	7.15

### Environmental

<b>Temperature</b> (Operating) [°C]	5 to 60 (surface)	5 to 60 (surface)	0 to 65 (surface)
<b>Temperature</b> (Non-operating) [°C]	-40 to 70	-40 to 70	-40 to 70
<b>Vibration</b> (Operating)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)
<b>Vibration</b> (Non-Operating)	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)
<b>Shock</b> (Operating)	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)
<b>Shock</b> (Non-operating)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)
<b>Acoustics</b> (Idle Model) [dB]	20	20	34

### Physical

<b>Height</b> [mm Max.]	26.1	26.1	26.1
<b>Length</b> [mm Max.]	147.0	147.0	147.0
<b>Width</b> [mm Max.]	101.85	101.85	101.85
<b>Weight</b> [g Max.]	720	720	770
<b>Bottom Holes Type</b> <sup>9</sup>	TYPE1	TYPE1	TYPE1

## Toshiba N300 NAS Internal Hard Drive

Capacity <sup>1</sup>	8TB	6TB	4TB
<b>Model Number</b> (Retail Packaging)	HDWG180XZSTA	HDWG160XZSTA	HDWQ140XZSTA
<b>Model Number</b> (Bulk)	HDWG180UZSVA	HDWG160UZSVA	HDWQ140UZSVA
<b>Basic Specifications</b>			
<b>Interface</b>	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s	SATA 6.0 Gbit/s
<b>Form Factor</b> <sup>2</sup>	3.5-inch	3.5-inch	3.5-inch
<b>Advanced Format</b> (AF)	Yes	Yes	No
<b>RoHS Compatible</b> <sup>3</sup>	Yes	Yes	Yes
<b>Features</b>			
<b>Drive Bays Supported</b> <sup>4</sup>	Up to 8	Up to 8	Up to 8
<b>Rotational Vibration</b> (RV) Sensors	Yes	Yes	Yes
<b>Shock Sensor</b>	Yes	Yes	Yes
<b>Drive Stabilization Technology</b>	Yes	Yes	Yes
<b>Toshiba Cache Technology</b>	Yes	Yes	Yes
<b>Recording Technology</b>	CMR	CMR	CMR
<b>Performance</b>			
<b>Rotational Speed</b> [RPM]	7,200	7,200	7,200
<b>Max Data Transfer Speed</b> <sup>5</sup> [MB/s Typ.] (Sustained)	Up to 241	Up to 241	Up to 204
<b>Cache Size</b> [MB]	256	256	128
<b>Reliability</b>			
<b>24x7 Operation</b> <sup>10</sup>	Yes	Yes	Yes
<b>Workloads</b> [TB/Year] <sup>6,10</sup>	180	180	180
<b>MTTF</b> [Hours] <sup>7</sup>	1,000,000	1,000,000	1,000,000
<b>Unrecoverable Error Rate</b>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>	1 per 10 <sup>14</sup>
<b>Load/Unload Cycles</b>	300,000	300,000	300,000
<b>Limited Warranty</b> [Years] <sup>8</sup>	3	3	3
<b>Power Management</b>			
<b>Supply Voltage</b>	5 V DC +10 / -5 % 12 V DC ±10 %	5 V DC +10 / -5 % 12 V DC ±10 %	5 V DC ±5 % 12 V DC ±10 %
<b>Power Consumption</b> (Operating) [W]	8.61	7.88	9.6
<b>Power Consumption</b> (Idle) [W]	6.33	5.59	5.2
<b>Environmental</b>			
<b>Temperature</b> (Operating) [°C]	0 to 65 (surface)	0 to 65 (surface)	0 to 65 (surface)
<b>Temperature</b> (Non-operating) [°C]	-40 to 70	-40 to 70	-40 to 70
<b>Vibration</b> (Operating)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)	7.35 m/s <sup>2</sup> {0.75G} (5 to 300Hz) 2.45 m/s <sup>2</sup> {0.25G} (300 to 500Hz)
<b>Vibration</b> (Non-Operating)	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)	29.4 m/s <sup>2</sup> {3.0G} (5 to 500Hz)	49.0 m/s <sup>2</sup> {5.0G} (5 to 500Hz)
<b>Shock</b> (Operating)	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)	686 m/s <sup>2</sup> {70G} (2 ms duration)
<b>Shock</b> (Non-operating)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)	2,450 m/s <sup>2</sup> {250G} (2 ms duration)
<b>Acoustics</b> (Idle Model) [dB]	34	34	30
<b>Physical</b>			
<b>Height</b> [mm Max.]	26.1	26.1	26.1
<b>Length</b> [mm Max.]	147.0	147.0	147.0
<b>Width</b> [mm Max.]	101.85	101.85	101.85
<b>Weight</b> [g Max.]	770	770	720
<b>Bottom Holes Type</b> <sup>9</sup>	TYPE1	TYPE1	TYPE2



# TOSHIBA

## Toshiba Consumer Internal Hard Drives.

A drive for every storage application.



Image does not represent actual product.

To see our full line of consumer HDD storage products, visit: [storage.toshiba.com/consumer-hdd](https://storage.toshiba.com/consumer-hdd)

<sup>1</sup> 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  $1\text{GB} = 2^{30} = 1,073,741,824$  bytes and  $1\text{TB} = 2^{40} = 1,099,511,627,776$  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.

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

<sup>3</sup> 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 disjointed (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.

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

<sup>5</sup> 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. Transfer speed varies by capacity.

<sup>6</sup> 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.

<sup>7</sup> 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.

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

<sup>9</sup> 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>

<sup>10</sup> Drive life may vary depending on usage and workload. See also MTTF and Annual Workload Rating for more detail.

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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