

# NAS drives



A NAS (Network Attached Storage) hard drive will revolutionise your home network. **Andy Shaw** tests five affordable devices

**H**ooking your hard drive up to your network instead of tethering it to a PC is the easiest way to liberate your files. You can access video, music and photos from any device in the house; stream them over the internet; and back up all your PCs to one place.

Some NAS drives come with hard drives pre-installed, others are driveless 'enclosures', into which you insert new or existing hard drives. If you don't have any spare, a new 1TB drive can be bought for around £45, so filling a two-bay enclosure will cost about £90. We've marked our reviews with coloured symbols so you can easily see which products are driveless and which come with drives already fitted.

## HOW WE TESTED

We connected each NAS to a Netgear Gigabit switch and ran a series of file-copying tests so we could check the transfer speeds. These involved transferring 1.7GB to and from each drive five times to get an average speed for each, shown in our table on the opposite page. Where units were supplied without hard drives, we installed a pair of 1TB Seagate Barracuda drives.

**WEB USER AWARDS**

**Webuser GOLD AWARD**

The best product/service in its category

**Webuser SILVER AWARD**

Good, but just misses out on top billing

**Webuser BRONZE AWARD**

Pretty good, but with some shortcomings

## WESTERN DIGITAL MY CLOUD 2TB £119.99 | [www.dabs.com](http://www.dabs.com)

FEATURES ★★★★★ PERFORMANCE ★★★★★  
EASE OF USE ★★★★★ VALUE FOR MONEY ★★★★★

DRIVE INCLUDED



**Webuser GOLD AWARD**

Western Digital's My Cloud is small and provides excellent value for money. It houses a single, non-replaceable hard drive, so you can't use RAID (Redundant Array of

Independent Disks - a system that saves all your data on two separate drives, so if one fails, your files are still safe).

No NAS drive is particularly easy to set up, but Western Digital has done a good job of making this as smooth as possible. This is partly because you don't have to install a drive, and also because the software is well designed.

The My Cloud was the second fastest NAS in our test, taking into account both the read and write speeds. Writing to the drive was actually the fastest, at 64MB/s, which is good news when you're making back-ups. The read speed of 78MB/s wasn't as fast as the Buffalo drive, though.

### VERDICT

★★★★★

This solid device has a 2TB drive pre-installed. It's great value for money and is reasonably straightforward to set up. It doesn't have some of the complex features of its rivals, such as RAID, but it's a good choice for most home users.

## D-LINK DNS-327L | £111.99 [www.ebuyer.com](http://www.ebuyer.com)

FEATURES ★★★★★ PERFORMANCE ★★★★★  
EASE OF USE ★★★★★ VALUE FOR MONEY ★★★★★

DRIVE NOT INCLUDED



**Webuser SILVER AWARD**

The D-Link DNS-327L is a driveless enclosure, so you'll need to buy and install the hard drives in it yourself. This is a bit fiddly and requires significant

pressure to push them into their slots, but once it's physically set up, a wizard takes you through the configuration process. The web connection is simple to set up and there are handy mobile and browser-based apps for uploading, downloading and sharing files.

Performance was particularly good in our writing tests, where it came second with a transfer speed of 60MB/s. However, it was third in our reading test, with a speed of 63MB/s, which gave it an overall average of third place.

The D-Link NAS provides good value for money if you have spare hard drives you can install, but you'll have to spend an extra £90 or so to fit it out with a couple of new 1TB drives.

### VERDICT

★★★★☆

The D-Link DNS-327L is a bit tricky to set up, but it's relatively straightforward to use once you've inserted the drives. It works well on a network and across the internet, and it has a good range of add-ons.



## BUFFALO LINKSTATION 421DE

**£89.98** | [www.dabs.com](http://www.dabs.com)

FEATURES ★★★★★ PERFORMANCE ★★★★★  
EASE OF USE ★★★★★ VALUE FOR MONEY ★★★★★

Webuser  
**BRONZE  
AWARD**

The Buffalo LinkStation 421DE is another driveless enclosure that offers RAID back-up. There are two USB ports for adding further external storage and the one on the front is a USB 3 port.



DRIVE NOT INCLUDED

It was the fastest NAS in our tests overall, thanks to a very good performance in our reading tests, which reached 102MB/s. This would make it particularly useful for sharing multiple files at the same time, if you wanted it to act as a family media server, for example. The write speed was only third fastest, though, behind both Western Digital and D-Link, at 54MB/s.

Physical set-up is fairly straightforward, with the drives sliding into the device on rails. However, we were disappointed by its user interface, which looks old-fashioned next to Western Digital's, and the mobile apps lack any sophisticated options.

### VERDICT

★★★★★

This is a good-value NAS if you've already got the hard drives to fill it, and it performed well in our tests. You can use it to access files over the internet but its old-fashioned interface and basic mobile apps failed to impress.

## ZYXEL NSA320 | £59.99

[www.box.co.uk](http://www.box.co.uk)

FEATURES ★★★★★ PERFORMANCE ★★★★★  
EASE OF USE ★★★★★ VALUE FOR MONEY ★★★★★



DRIVE NOT INCLUDED

This is the cheapest route to multiple-drive storage in this test, though it will still cost more to fill it with two 1TB drives than it costs to buy Western Digital's single-drive 2TB alternative. However, it offers the benefit of RAID, which is set up for you automatically after you've gone through the simple process of slotting in your hard drives.

This NAS has been available for a while but still gets attention from ZyXEL's developers and has seen several updates to keep its features in line with the competition. Its control panel is basic and more like a web-based router configuration tool than a sophisticated app. It has two USB ports, but they're both USB 2.

Performance wasn't quite up to our award winners. Although its 64MB/s reading speed was 1MB/s faster than D-Link's, its poor writing speed was the slowest by some margin at 36MB/s, which put it in fourth place overall.

### VERDICT

★★★★★

If you've already got hard drives you can install, this is the cheapest way to get a NAS drive. With new drives, you'd be paying more than the Western Digital, but its RAID tool would make it safer for back-ups.

## FREECOM SILVER STORE 2-DRIVE NAS 2TB | £176.50 | [www.ebuyer.com](http://www.ebuyer.com)

FEATURES ★★★★★ PERFORMANCE ★★★★★  
EASE OF USE ★★★★★ VALUE FOR MONEY ★★★★★

DRIVE INCLUDED

The aluminium shell of the Freecom Silver Store makes it look more rugged than the light, plastic boxes that house the other NAS drives in this test.

It comes pre-equipped with two 1TB hard drives, so you don't have to worry about inserting your own or having to pay for new ones. It has two USB ports for extra storage, with a standard USB 2 port at the back and a USB 3 port at the front.



Sadly, the average performance of the drive put it in last place in our tests. The writing speed was a touch faster than the ZyXEL NAS, but its read speed was slower.

There aren't a lot of features beyond streaming via DLNA or iTunes, though you can access it over the internet using a browser or mobile app (Android or iOS). These tools let you stream video and music, as well as access your files.

### VERDICT

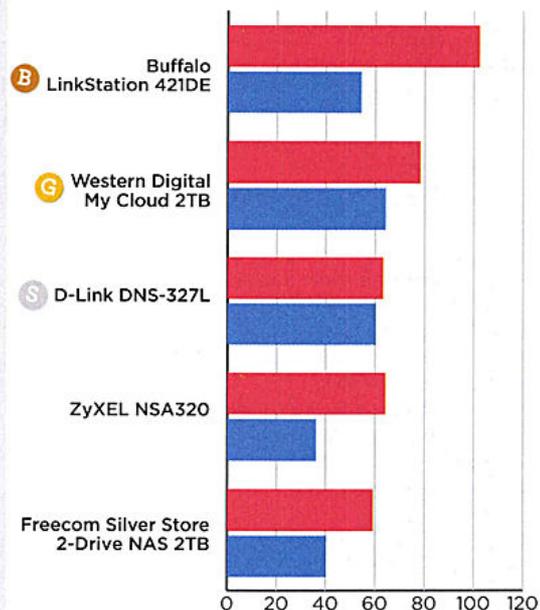
★★★★★

The Silver Store is let down by its slow performance and high price. However, if you want drives pre-installed and the RAID benefit outweighs your need for speed, then it's a perfectly viable option.

## TEST-RESULTS CHART

### NAS drives transfer speed

■ Read transfer speed (MB/s)  
■ Write transfer speed (MB/s)





	 <b>Webuser GOLD AWARD</b>	 <b>Webuser SILVER AWARD</b>	 <b>Webuser BRONZE AWARD</b>		
MANUFACTURER	Western Digital	D-Link	Buffalo	ZyXEL	Freecom
MODEL	My Cloud 2TB	DNS-327L	LinkStation 421DE	NSA320	Silver Store 2-Drive NAS 2TB
WEBSITE	<a href="http://www.wdc.com">www.wdc.com</a>	<a href="http://www.dlink.com/uk">www.dlink.com/uk</a>	<a href="http://www.buffalo-technology.com">www.buffalo-technology.com</a>	<a href="http://www.zyxel.com">www.zyxel.com</a>	<a href="http://www.freecom.com">www.freecom.com</a>
PRICE	£119.98	£111.99	£89.98	£59.99	£176.50
BUY FROM	<a href="http://www.dabs.com">www.dabs.com</a>	<a href="http://www.ebuyer.com">www.ebuyer.com</a>	<a href="http://www.dabs.com">www.dabs.com</a>	<a href="http://www.box.co.uk">www.box.co.uk</a>	<a href="http://www.ebuyer.com">www.ebuyer.com</a>
PROCESSOR	650MHz Marvell Armada XP	1.2GHz Marvell Armada 370	1.2GHz Marvell Armada 370	1.2GHz Marvell Armada 88F6281	1GHz Marvell Armada 310
RAM	256MB	512MB	512MB	512MB	128MB
CAPACITY	1 x 2TB	Diskless	Diskless	Diskless	2 x 1TB
NUMBER OF DRIVE BAYS	1	2	2	2	2
USER-REPLACEABLE DRIVES	No	Yes	Yes	Yes	Yes
USB	1 x USB 3	1 x USB 3	1 x USB 3, 1 x USB 2	2 x USB 2	1 x USB 3, 1 x USB 2
MOBILE APPS	Android, iOS	Android, iOS	Android, iOS	Android, iOS	Android, iOS
EXTERNAL DEVICE SUPPORT	Yes	Yes	Yes	Yes	Yes
MEDIA-SERVER FUNCTIONS	UPnP/DLNA, iTunes	UPnP/DLNA, iTunes	UPnP/DLNA, iTunes	UPnP/DLNA, iTunes	UPnP/DLNA, iTunes
WEB HOSTING	No	Yes	No	Yes	No
MANAGED BACK-UP	Yes	Yes	Yes	Yes	Yes
RAID OPTIONS	None	RAID 0, RAID 1, JBOD	RAID 0, RAID 1, JBOD	RAID 0, RAID 1, JBOD	RAID 0, RAID 1, JBOD
OS SUPPORT	Windows XP/Vista/7/8+, OS X 10.6-10.8	Windows XP/Vista/7/8+, OS X 10.6-10.8	Windows XP/Vista/7/8+, OS X 10.6-10.8	Windows XP/Vista/7/8+, OS X 10.6-10.8	Windows XP/Vista/7/8+, OS X 10.4-10.8
DIMENSIONS	170 x 139 x 49	195 x 144 x 90mm	205 x 128 x 87mm	205 x 147 x 108mm	208 x 137 x 105mm
WARRANTY	2 years	2 years	2 years	3 years	2 years

## OUR VERDICT

The Western Digital My Cloud 2TB wins our Gold Award, because it provides superb value for money and is one of the simplest NAS drives to get up and running. Its only drawback is that it has a single, non-replaceable drive, so can't offer RAID back-up to further protect your files.

The Silver Award-winning D-Link DNS-327L is a more sophisticated option that doesn't come with drives of its own. Once you've fitted your own hard drives, however, it's a powerful device with a lot of useful features.

If you've already got hard drives you can slot in, the Bronze Award-winning Buffalo LinkStation 421DE offers fantastic value for money, though it isn't as straightforward to set up as the other award-winners. ◉

