



**EDIMAX**  
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## Home Entertainment Networking

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Edimax **Digital Network Media Adapter (MA-2000)** supports many media file formats such as WMV, MPEG-4, DivX, Xvid, Real Video (rmvb & rm), H.264, MP3, WMA, Real Audio (ra), MKV and ISO/IFO and it features with a HDMI output, which allow you to playback the high definition video on your LCD TV.



NS-2502

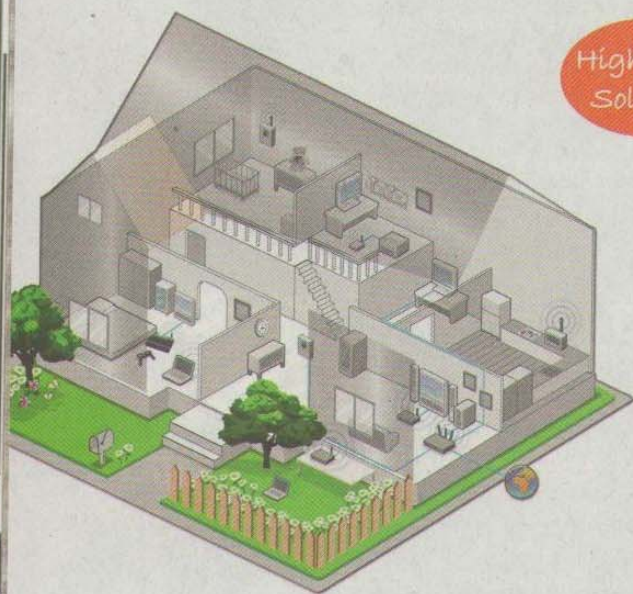
**NEW**



MA-2000

**Gigabit Network Storage (NS-2502)** supports striping or mirroring the hard drives. It features with the Bit-torrent download, Media server, built-in FTP and Samba servers.

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**>This week**

...Ever wished you could access files, printers or download torrents without having your main PC powered on all day long? Sebastian Robinson takes a look at five of the best NAS devices doubling as home media servers and reports back on which are worth their salt.

## Home Media Servers

**Buffalo LinkStation Pro**

**T**he Buffalo LinkStation Pro is a neatly designed glossy black unit with blue status LED at its top. The unit works equally as well stood upright as it does lying on its side, so it's a matter of personal preference as to which way will look best in your setup. The LinkStation is the smallest and lightest unit on test - being not much larger than the size of the 3.5" desktop sized drive, fan and electronics it contains.

In common with the other servers on test, the LinkStation is essentially a mini PC in itself, running a customised Linux build from its internal solid state memory. This allows it to share files across the network - and movies, photos and music to media devices such as Xboxes and Playstation 3s. It also enables it to run some more advanced functions such as serving as a BitTorrent file sharing download client, saving you the need to have your PC turned on 24/7 when grabbing a large file.

**// The web-based admin interface is on a par with the best in this test when it comes to usability range of features and overall quality //**

On our 0-3 noise rating scale (0 being silent), the Buffalo scores 3; this doesn't by any means suggest that it is abnormally noisy, but it does sit at the top of our scale when

compared to the other units on test. A rating of 1 or 2 would suggest you wouldn't hear the unit above the other hums that will no doubt emanate from your PC or home TV setup but you would probably notice the addition of the Buffalo. The system does have an 'auto' power mode, meaning that its powering on and off can be linked with your PC, so this might mitigate its noise output to some extent.

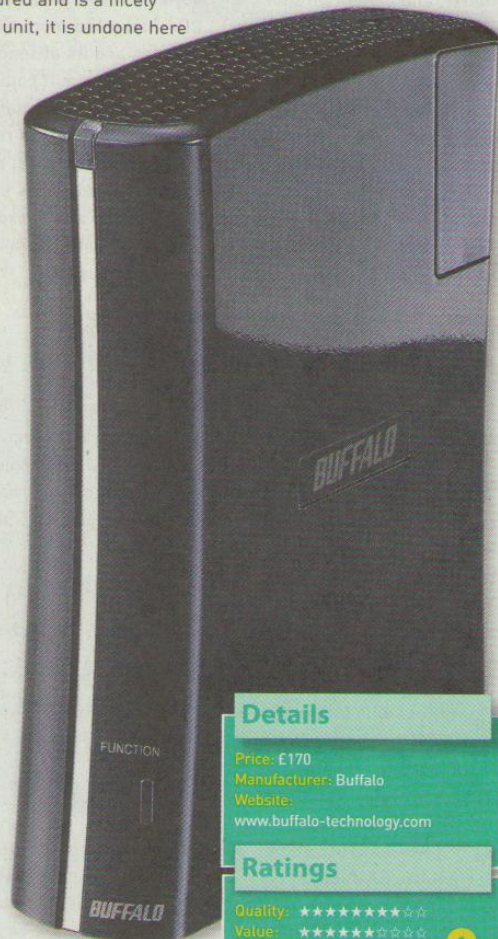
Setting up the Buffalo LinkStation is a straightforward affair: it takes its IP address from a DHCP server - where one is present - or it can be detected using the included software utility. Once connected, the web-based admin interface is on a par with the best in this test when it comes to usability, range of features and overall quality. Both a print server and a BitTorrent client are included. The BitTorrent client is excellent, giving good progress updates in a clear manner.

System status updates can be automatically issued by e-mail for events such as disk space running out or system downtime; though, granted, these might be more useful in a small

office than in the home. Backup software is included on the CD and the unit's USB port can be used to attach further storage or a printer, which can be shared across your network using the print server function.

Unfortunately, although the Buffalo is technically very good, well featured and is a nicely designed unit, it is undone here

on pricing terms. Of course, the good BitTorrent client will appeal to serious downloaders and those who need the print server will also find this attractive. Yet Buffalo narrowly misses the nine score because the £40 price premium feels a lot to pay for those two benefits.



▲ The Buffalo NAS looks good in shiny black

**Details**

Price: £170  
 Manufacturer: Buffalo  
 Website:  
[www.buffalo-technology.com](http://www.buffalo-technology.com)

**Ratings**

Quality: ★★★★★★☆☆  
 Value: ★★★★★☆☆☆

**OVERALL 8**

## Home Media Servers

# D-Link DNS-323

This D-Link NAS server will be slightly more suited to the power home user or to small office use thanks to its twin drive bays and advanced features - such as print server and e-mail alert notifications. The unit is also smaller, and benefits from better design quality compared to our other two-bay unit from Edimax (see below).

Setup is very straightforward and the web-based user interface is well thought out and easy to use. Upon first switch on, it guides you through a web-based setup wizard, prompting you to change

the default password. The BitTorrent download client is very similar to that supplied with the Buffalo and works very well, giving lots of detail on file download progress.

Installation of the BitTorrent client is performed after power-on from the supplied CD. It takes no more than three minutes and its absence from the unit by default could be considered an advantage in office situations. The regular file sharing over local networks and to media devices such as PlayStations and Xboxes is present as with all units on test and works just fine.

The review unit contains a single 1TB hard drive and a spare bay for future expansion. Adding and removing drives is a straightforward matter of

entry does have the downside that the drives are vulnerable to casual theft even when the unit is secured to a desk using the laptop-style Kensington

**// The D-Link NAS does everything it should, works fine and looks great. The ability to add an extra hard drive at a later date will be very useful to some //**

sliding the front cover off to give direct access to the drives. This is great for simplicity and convenience, but screwless

lock slot to the rear. The power supply for this unit is a little bulky, being of the size used by smaller laptops.

## Edimax NS-2502

The Edimax NAS server is the only item in this test not to ship with drives pre-installed, so something like £65 should be added to the price quoted here for comparison. However, we included it thanks to its great range of features for a budget price point - and that it is likely to suit those who either have a spare SATA hard drive to hand, or who want to buy the drive separately and shop around.

As with the D-Link unit, this is a two-bay NAS server allowing two SATA drives to be installed. It also features a RAID controller allowing the two drives to be combined into one larger one (striped) or

mirrored for data security. The 3.5" drives sit in caddies, which are slotted into the rear of the unit; as with the D-Link, it is

**// The Edimax's software features are what sets it apart from the rest. File and media shares are simple to set up and the rest of the interface is fairly simple to use //**

possible to remove the drives without undoing any screws which could be a security concern in some arenas.

The Edimax's software features are what sets it apart

from the rest. File and media shares are simple to set up and the rest of the interface is fairly simple to use. The BitTorrent

client on board supports DHT (Distributed Hash Table) for faster location of peers, and also comes with a Windows-based management application - useful if you don't want to be

continually hitting refresh on a browser window to see how your downloads are going. FTP and Web downloads can also be scheduled from the unit. Two USB ports are provided although curiously, both are for storage. Unfortunately, print serving is not supported.

Setting up the Edimax unit is a little less straightforward than the rest in that, by default, the unit does not take its IP address from an available DHCP server; instead it sits at 192.168.2.5 meaning that most users will have to use the supplied software utility to locate and reconfigure before getting access through the web interface in the normal way.

The unit contains a RAID controller, allowing matching size drives to be paired into either striped mode - to give one large storage space - or mirrored mode, to give extra data security for work or office uses. A single USB port is provided and may be used to attach either extra storage or a printer.

Our score of 2 out of 3 for noise is based on the supplied configuration, with just one hard drive installed. The unit does benefit from an intelligent fan control system, which ensures that its fan only runs when the unit needs it to, keeping the unit quiet for all

but intensive copy operations in a warm room. The unit doesn't feature the same, useful auto-on with PC function that some of the other units on test do, but the D-Link does allow the hard drive to be turned off after a pre-defined amount of time, in order to save energy and reduce noise further.

The D-Link NAS does everything it should, works fine and looks great. The ability to add an extra hard drive at a later date will be very useful to some. However, it misses out on the accolades due to its lack of wow factor - in that there is no big differentiator



### Details

Price: £200  
 Manufacturer: D-Link  
 Website: [www.d-link.co.uk](http://www.d-link.co.uk)

### Ratings

Quality: ★★★★★★☆☆  
 Value: ★★★★★★☆☆

OVERALL **7**

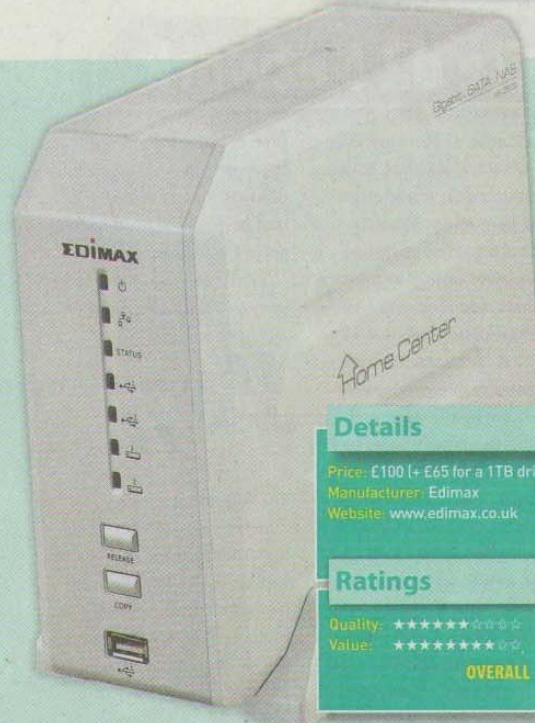
here other than the twin drive bays (which come at a price compared to other units on test). Without hard drives, the unit is available for £135, so there could be a small saving to be had by buying this drive-less and picking up your own choice of drive.

The interface and software are lacking the polish and quality of text translation of the others on test but do the job just fine, so we found no bugs during our testing. Unfortunately, the Edimax is let down a little on the quality of hardware design. It won't suit use next to your TV setup or in a bedroom because of its budget looks, untidily fashioned front USB port and seven bright LED lights (four of which illuminate just to say everything is okay!).

This server is a mixed bag really. If you need a cheap server to sit in a cupboard or back room - and like the fact that this one has the best BitTorrent client, and offers two drive bays with

RAID (it has and does) - then it will be a wise purchase. On the other hand, it won't suit the less technically able too well, and it certainly won't look great plonked down next to your other shiny AV and PC kit.

Edimax has created a NAS server with an excellent feature set and user-swappable drives - and all at a best in class price. Although it's sold without drives for £100, we've based that value judgement on a price of £165 to include separate purchase of a 1TB drive. For that factor alone, we're going to ignore the looks and lack of polish and give it our Highly Commended award. If you can look past them too, it's certainly a good option.



### Details

Price: £100 (+ £65 for a 1TB drive)  
 Manufacturer: Edimax  
 Website: [www.edimax.co.uk](http://www.edimax.co.uk)

### Ratings

Quality: ★★★★★★☆☆  
 Value: ★★★★★★☆☆

OVERALL **8**

## Home Media Servers

## Iomega Home Media Network Drive

Iomega's Home Media Network Hard Drive is one of the best looking units on test. The outer casing is an aluminium extrusion with a great brushed grey finish. The unit can be used flat or upright. Its looks are further aided by the lack of any status LEDs to the front, both being on the rear top corner and you can even customise their brightness, making this ideal for AV or bedroom use.

Setting up the unit is very simple, no password is required by default and home users may wish to keep it that way for simplicity. The supplied CD also includes a quick setup utility

and a printed quick start guide comes in the box too. The web-based interface is very easy to use and the functions, such as setting up new folders to share are child's play. Adding torrents to be downloaded with BitTorrent is easy too; simply saving them to a specific 'ActiveFolder' on

detail beyond percentage progress and current download speed.

Downloading was fast enough on popular torrents, but a lack of DHT support means it won't be quite as fast as on your PC client.

Iomega include PC-based backup software from their parent company and well respected

silent). The unit is one of the smallest and lightest on test (matched only by the Buffalo) and although it doesn't feature any user-configurable power save settings, though it does appear to spin down its hard drive after five minutes of inactivity.

The USB port to the rear of the device can be used to attach additional storage but the onboard software does not include any print server functions. This, together with the slightly below-par BitTorrent download client are the only downsides to this otherwise faultless unit. Those experienced in tweaking may be able to replace the existing Linux

**Great ease of use, fantastic design and looks**

the device, prompts the download to start. A web-based interface allows you to monitor progress - but doesn't show a great level of

storage brand EMC. The unit does include a fan but is very quiet in operation, earning a 2 out of 3 noise rating (0 being

## LaCie d2 Network

The LaCie d2 Network is a smart, if perhaps bold looking unit. It's another extruded aluminium affair, this time with a smart blue status LED and power button at the top on the front side. The unit can be mounted upright or lie on its side - and it is the quietest on test, boasting fanless operation thanks to the neatly designed ribs on the casing acting as heat sinks to passively disperse the hard drive's heat.

Setting up the unit is very straightforward, it takes its IP from a DHCP server where available so, as with most of the other units, locating it is just a matter of checking the attached devices list of your router and

then copying that address to a browser bar. A software locator utility is also provided should that be needed, as is backup software for your PC.

Features wise, there is very easy to set up file and media

anything more than the name of the file being downloaded and a percentage progress indicator. Many will find the lack of detail on upload/download rates and number of connected users a real downside.

**A great product with great looks**

sharing and the web based interface also allows you to turn the front LED off which will be useful in a lounge/bedroom location. A very basic BitTorrent download manager is included. It does the job, but doesn't support DHT or offer

Unusually, the LaCie web interface doesn't allow configuration of all options for the device. E-mail notifications and the wake-on LAN settings must be configured via the software utility, which will be frustrating for admins who like

## Details

Price: £170  
Manufacturer: LaCie  
Website: [www.lacie.com/uk](http://www.lacie.com/uk)

## Ratings

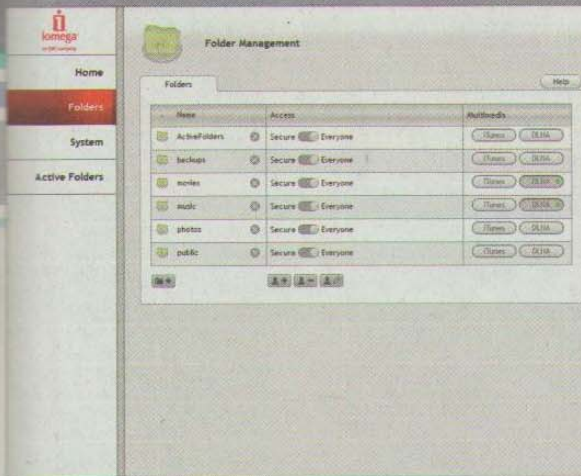
Quality: ★★★★★★☆☆

Value: ★★★★★★☆☆

OVERALL 7

to be able to configure from Linux or multiple machines without need to install local software.

On the energy saving front, the LaCie includes an 'auto' power mode which can be customised to power on the unit only when a designated PC starts up (wake on LAN). A print server is not included although there is a USB

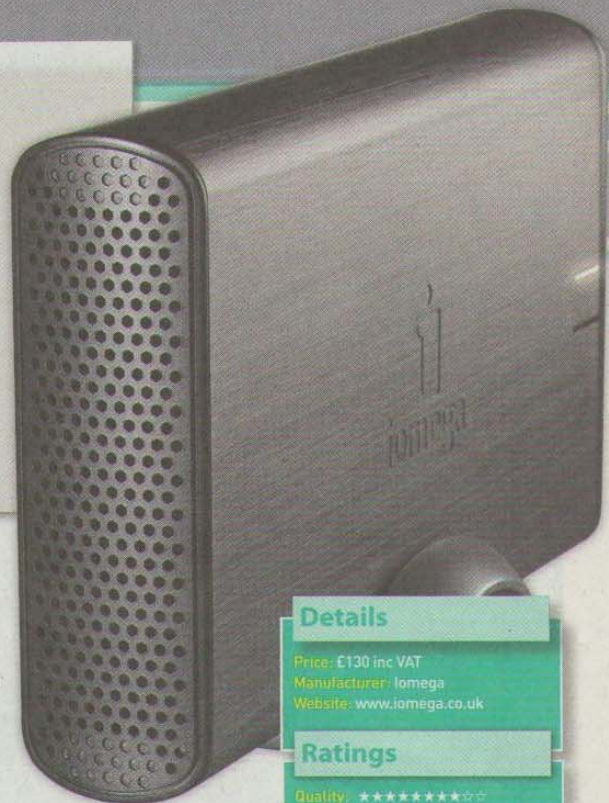


▲ Managing file shares on the Iomega is very simple

build on this unit with their own system, but for other power users, these gaps in the software may make it worth investing a little more and choosing one of the higher priced units on test.

Still, this unit scoops the Editor's Choice award for its great ease of use, fantastic design and looks, combined with its low price of £130, a £40 saving over

its closest competitor here. Interestingly, those wanting to save even more can go for the 500GB version at just £100, and though this level of price difference between differing sized products is rare in the IT industry, we checked our facts and can only assume that Iomega has as great a deal going with its component suppliers.



#### Details

Price: £130 inc VAT  
 Manufacturer: Iomega  
 Website: [www.iomega.co.uk](http://www.iomega.co.uk)

#### Ratings

Quality: ★★★★★★  
 Value: ★★★★★★

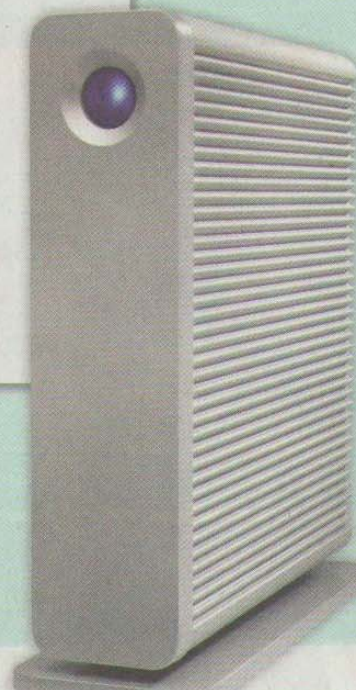
**OVERALL 9**



▲ the LaCie web interface is very straightforward to use

port for connecting more storage via thumb drive or external hard drive. An eSATA external Serial ATA port is provided however, making it the only one in this group test to offer a fast means of adding further storage.

The eSATA interface runs at up to 3Gb/s compared to 480Mb/s for USB 2.0. Even though gigabit networking places a 1Gb/s limit on



transfers from the device to your PC, the eSATA interface will still allow you to get data from the server as fast as it can from its own internal drives. On a gigabit network, simply adding more storage to these NAS servers by USB will feel a little slow.

The LaCie NAS is a well designed, well thought out product with some nice features, particularly the ability to add an external SATA drive. If its software features matched the design quality then it would be a much more serious contender. For those who won't make use of the BitTorrent client, this is a great product with great looks.

>How we tested...Speed tests were conducted but it was found that the gigabit network routers we had to hand were the bottleneck in all cases. Since these servers are all equally limited by the constraints of gigabit network throughput, they can be considered equal in terms of speed.

Manufacturer	Buffalo	D-Link	Edimax	lomega	LaCie
Model Name	LinkStation Pro	2-Bay Network Storage with HDD (1TB)	Gigabit Fast Ethernet 2-Bay SATA NAS Server	Home Media Network Hard Drive	d2 Network
Model Code	L5-XH1.0TL	DNS-323-1TB	NS-2502	34237	1TB LaCie d2 Network EK
Capacity	1TB	1TB	no drive included	1TB	1TB
Number of spare drive bays	0	1	2	0	0
Hard Drive User upgradeable?	N	Y	Y	N	N
Drive size	3.5" / Desktop	3.5" / Desktop	3.5" / Desktop	3.5" / Desktop	3.5" / Desktop
Unit dimensions (hwd)	48x175x158	130x104x200	167x78x190	40x124x197	45x174x162
Ethernet type	gigabit	gigabit	gigabit	gigabit	gigabit
USB ports	1x	1x	2x	1x	1x
Power on/off with PC	Y	N	N	N	Y
Media server	Y	Y	Y	Y	Y
Backup Software	Y	Y	N	Y	Y
Noise (3 = loudest, 0 = silent)	3	2	3	2	1
Setup notes					
BitTorrent Client	Y	Y	Y (with desktop download manager)	Y (after firmware upgrade)	Y
Extra features	Print server	Print server			ESATA Port
Price (inc VAT)	£170	£200	£100 + £65 for 1TB drive	£130	£170
Quality /10	8	8	6	6	7
Value /10	6	7	8	9	6
Overall /10	8	7	8	9	7
			Highly Commended	Best Overall	

## &gt; BEST OVERALL

Editor's Choice  
**micro  
mart**



## lomega Home Media Network Hard Drive

lomega's Home Media Network Hard Drive scoops the best overall position for its great feature set and good design at a price point that is £40 better than its next comparable rival.

## &gt; HIGHLY COMMENDED

Highly  
Commended  
**micro  
mart**



## Edimax Gigabit Fast Ethernet 2-Bay SATA NAS Server

What the Edimax lacks in looks and polish is more than made up for by its low price and its excellent BitTorrent download system with desktop management app. It has the added bonus that you can shop for your own hard drive or perhaps find one that is already going spare.