

12 April 2007

By: Ionut Ciocirlie, Hardware Editor



WD Passport and data cable
Tudor Raiciu for
Softpedia.com

Western Digital Passport Review

Stylized portable media that fits in your pocket

Portable hard drives have been around for quite some time offering a healthy alternative to internal storage. Buying one for yourself at this particular moment seems a rather good idea especially if you need to carry a large amount of data with you. While this statement alone doesn't directly relate to the importance of owning such a device, perhaps the following lines will do a better job. In any case, Western Digital's latest products have efficiently combined pure performance with some appealing looks making them best sellers almost instantly. This being said, if you're curious just how good are these new units this is a must-read.

Introduction Western Digital is not a new name in the storage world as its hard disk drives are well known for their performance. Despite that, Western Digitals are a newcomer in the compact portable arena and that seems to have crippled their overall image a bit. Think about LaCie and older portable Maxtors and you will soon realize that there weren't as many external storage solutions available as one might think. However, with the introduction of the Passport series they seems to have solved the image issue. And Seagate isn't far behind either with its own "Free Agent" series registering some impressive numbers in revenues. The first Passport series came in late November 2004 with a rather plain look and if you also take into account the ambiguous marketing policy adopted by Western Digital when they promoted it you will surely understand why it didn't sell that well. However as time passed, reviews from various sources revealed that the silver case was a success in terms of pure performance besting all previous LaCies (such as the Mobile Hard Drive series) and in some cases even Maxtor's own One Touch Go line. And then the second coming of the Passport line took place. Quietly, at the end of December 2006, WD introduced a new Passport enclosure, smaller, quieter, and even sleeker than before.

Furthermore, the Passport came in an impressive black finish and could house even bigger hard disk units than the previous version. At first, Western Digital registered poor sales but in time revenues got a lot bigger and the black box started to fit in nicely in various pockets.

Aesthetics, Design, Functionality The first thing that pops into your head when you open the plastic encasing of the Passport unit should be the following: "Damn, it really fits". In your pocket, that is. And if you take a quick look at the numbers found on the manufacturer's website under the portable section, you will understand why. Actually, it is not its sheer size that makes you think that although the numbers are indeed pretty good. It's the looks that give you the impression that you can simply unplug your Passport and as soon as you place it in your pocket, you're ready to go. *Aesthetics* In order to really understand what I'm talking about, I'd suggest the following experiment: Go on Western Digital's website and run the "3D View" on the Passport section. It's as easy as 1-2-3 as long as you have the proper software and the result is even more impressive. The surface of the enclosure looks somewhat similar to the external shell of the PS3 possessing the same ability of reflecting almost any source of light pointing directly at it. I guess kids would really love the way it looks under direct sunlight (but that's besides the point since my colleague, the photographer who captured the pictures, will hate it for the exact same reason). I really don't know if the name "Passport" is suited for such a device but i have to say that it does look like one. Then again, maybe it's a little thicker but due to its size (and weight) you probably won't even feel it in your pocket. Moreover the device does away with sharp edges and because of that it feels a lot more comfortable than it looks. So i guess they were right about the naming experience. *Design* The encasing seems to be made from a rugged plastic, motive for which it feels a lot stiffer than it looks. However after using it for a few days you will notice that it is rather comfortable to carry around. The lower part of the

enclosure is more opaque than the upper area and because of that the unit looks like it's made out of two totally different types of plastic. However there's a good reason for that since Western Digital has used this type of encasing mainly because it has a high shock absorption rate. And that can only be a good thing especially if you're carrying sensitive data. As I've said earlier, if you look at this portable unit from one side you will probably come to the conclusion that the encasing is made out of two different materials. This statement is not entirely false since the lower body has a plastic/gummy appearance which looks rather plain when compared to the upper body. But if you take a more in-depth analysis you will realize that there are several advantages that come with this hybrid looks. First, the enclosure is stable on any kind of surface producing little vibration while operating. Moreover the encasing screens all the noise that comes out of the tiny hard disk drive (not that there's noticeable noise being generated) and manages to stay cool even during large data transfers. One could say that the developers of Passport did a really good job of mixing a pleasant appearance with a good performance and still managed to produce a device that fits in your pocket nicely. And don't forget the blue power led. If you have blue sources of light mounted on your desktop/laptop, this addition should fit in perfectly.

Functionality Regarding the functionality of the device, the lack of additional power connectors cannot go unnoticed. The first version of Passport had one and although it was rarely used, it proved of great importance in some cases. However this new series draws its power entirely from the USB header which is a good thing if you're planning to keep the design as simple as possible. Nonetheless such a design is not without flaws. The USB cable is very small (about 10 inches) making a setup between the Passport drive and a desktop PC impossible (unless you have front USB headers and the connector is placed very close to you). As far as I can tell, Western Digital designed this fellow with notebook users in mind. However I still hate the tiny cable, and buying a replacement will be of great help. Moreover, the lack of power connectors can be somewhat irritating especially when you pair the Passport unit with a laptop. Because not all portables are able to provide a sufficient amount of power in order to fuel the Passport portable hard drive properly, Western Digital offers a supplementary USB cable packed with two headers in order to obtain the power from two separate USB I/Os. However the cable is not free, nor is it ergonomic since it occupies two ports from your portable machine.

Specifications and Tests If you take a minute and look at the inside of the new Passport series you will notice that they use the same reliable Scorpio 2.5-inch internal hard drives. That is actually a good thing since Scorpios were and still are great performers in the 5400rpm segment. Moreover Western Digital's 2.5 inchers are also top performers when talking about access times besting everything in the 2.5-inch segment. According to the manufacturer's website the specifications for the Western Digital Passport 60GB are the following:

Rotational Speed:	5,400 rpm	Average Latency:	
5,5ms	Read Seek Time:	12ms	
Track-to-Track Seek Time:	2ms	Interface:	USB
2.0 (480Mbit/s)	Buffer Size:	8 MB	Formatted
Capacity:	60,022 MB	Actual Capacity:	55.8
GB	Height:	0.59 Inches (15mm)	Length:
	5.11 Inches (129.78mm)	Width:	
3.14 Inches (79.78mm)	Weight:	0.23 Pounds (100g)	

Western Digital's website also specifies a temperature range for nominal operation and for storage purposes so you'd better keep this information in mind or you might end up damaging your unit without even knowing. The temperature range for nominal operation is 5° C/41° F to 40° C/104° F while the storage range can vary a little more (-20° C/-4° F to 65° C/149° F). Note that if you go past these limits not only will your action result in an unusable drive but you will also void the warranty of the unit. Moreover I have to point out some facts regarding the Passport hard disk drive. Although the unit only ships with an USB 2.0 cable, it also comes with a lot of bundled software which can be found directly on the

unit. As is the case with every retail unit made by Western Digital, this one too ships with Data Lifeguard and WD Sync. Besides that, the hard drive comes packed with a copy of Google's Desktop, Picasa and the infamous Google Toolbar. I won't say much about the software since you can find various editorials about it around the web. However I have to give Western Digital the credits for its comprehensive WD Sync application as it matches the Passport perfectly. And besides the obvious backup capabilities it also supports full 128-bit AES encryption. Due to the lack of Firewire ports we decided to use a rather plain setup composed of a Socket 754 Sempron 2600+ coupled with an Asus K8N motherboard and 512MB's of Ram. As for primary hard drive we used an older but reliable WD800JB.

<i>Test Setup Details</i>	Western Digital Data Lifeguard:	Quick
Test Performed	HdTach 3.0.1.0:	Long Bench (Sequential Read,
Burst Speed)	Winbench99:	BusinessDisk Winmark99,
HighendDisk Winmark99, Application Details		File Copy (Read, Write):
559 MB (13 files, various sizes)	Archive Tests (Rar, Unrar):	559 MB

(13 files, various sizes) Due to the fact that the test system was not a high performer, the archive test was really slow, however it still remains a good performance indicator since the test files remained on the desktop hard drive while the archive was created on the mobile disk. The logic also applies to the extraction part where the process went a lot faster due to the low CPU usage. *Test Results* As you can see, Data Lifeguard correctly identifies the unit as a 60GB storage device connected through an USB 2.0 interface. Using the "Quick Test" command all we managed to do is stress the device for some 5 minutes after which the result was "Test Completed Successfully". Data Lifeguard can also be used for SMART tests and low-level format ("Write Zeros" command) but as the unit came preformatted with FAT32 file system, there was no need to repeat the process. A quick run of HDtach also identifies the USB device correctly and gives us two options to run the test: Quick Bench and Long Bench. In order to keep results as accurate as possible throughout the entire surface of the drive, we chose "Long Bench". The result of the test can be seen in the chart generated by the application. Due to the rather conservative USB 2.0 interface, the result is an expected 31MB/s throughout the first 40GBs of the drive. After that the transfer rate begins a steady drop and finishes just above the 22MB/s mark. The burst mode is also limited to 31.2MB/s. Overall this is a very good result especially for a 2.5-inch hard drive connected through the USB interface. In the last synthetic test we used Winbench99 version 2.0 and ran all the Winmark benchies in order to obtain a series of numbers related to the performance of the drive on various application. The result was not that good considering that older Passport units were somewhat faster but as this test is rather CPU intensive, the score could have been higher on more powerful machines. Real world tests generally turn out worse than theoretical ones mainly because of the multitude of applications that can gain access to your hard drive for various reasons. These issues tend to slow a transfer down by a large margin so if you want to do a real-world speed-test, make sure that your Ram is as clean as possible. In this case, Task Manager proved to be of great importance. Using Windows Explorer, we copied 13 files of various sizes (1MB to 300MB) using a total of 559MB from the desktop hard drive to the Passport unit after which we copied them back. The first copy (write) thread ran for 27 seconds before it finished giving us a solid 20,7MB/s of read. The reversed copy test (Read) was even faster resulting in a total time of 20 seconds. With a little help from the math you studied that results in an even more impressive 27.95MB/s which is pretty close to the 29.2MB/s mark reported by HDtach. And what's even better is that the speed is linear throughout the entire unit, no matter how many times we repeated the tests, the result came in par with older records. The archiving part was painfully slow as it took us about 10 minutes to complete the job. Winrar 3.4 was used with "Best Compression" method selected. The system still managed to give us about 1MB/s without any drops in speed. Overall the performance was indeed lower than expected but as I've said, a faster CPU is essential if you spend your entire day archiving large files. On the other hand the decoding part worked like a charm, finishing the job in just

30 seconds. The equivalent in MB/s is about 18.6 and that's not bad at all. Overall, I'd strongly recommend this unit for single thread applications (copy write, archives) as it is a great performer here. However multitasking scenarios are not for such a device and i hope you'll keep that in your mind before re-encoding your latest DVD while playing a 3D game at the same time.

Western Digital Passport Roundup

What's Cool:

performs great;
in your pocket;
good to go;
device;

It looks amazing and generally
It's so light that most of the times you will forget it
All you need is an USB 2.0 connector and you're
It has about the same price as an 8GB USB flash
It stays rather cool and makes no noise;

What's Not Cool:

It comes without a Firewire port and as a result it is slower than its desktop counterpart;
It doesn't have an external power adapter and that can cause some problems if your laptop can't sustain the needed amps through a single USB header;
It comes without any accessory (a carrying pouch would be welcomed);
It can be scratched very easily, and just as the PS3, as soon as you touch it you will leave your fingerprints on it forever;

All in all, i will give the new Passport line a 9/10. Its just like an A-. And the meaning is just as simple. What you buy is a great piece of engineering capable of solid performance and reliability. Yes it could do better (and future versions will probably deliver even higher numbers) but nonetheless it's still worth the price. Speaking of it, the Passport 60GB model can be yours for \$89-\$109 depending on your location. And yes, a web search can work wonders since many online shops have special offers regarding this very product.

ConclusionA lot can be said about the new Passport series but all the tests in the world won't make a difference. You simply like it or you don't, that reasoning has to come first if you're to choose a compact portable storage unit. You may ask yourself: "Does it have to look great or perform great?" And the answer is both. I'm a bit of a tech-geek and because of that i couldn't care less if i used an ugly mp3 player as long as it sounded great on a pair of decent headphones. However there are tons of Ipod users out there ready to hang me if I dare to say anything about their precious player. And the exact same logic applies here. Yes, the Passport could perform better. But it could also look like a brick and weigh 10 pounds. Would you still like it then? I guess not. And there can be no better conclusion here since if you leave all the numbers aside, what remains is a remarkable piece of hardware that looks like just as good as the latest gadget. Besides, be honest, this is a must-have. And it only takes one look.

Still Images from the Western Digital Passport Review: