

External Hard Drive vs. Backup Hard Drive

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Introduction

External hard drives – external HDD's for short, are becoming a very common peripheral for use with computers these days. As with most things to do with computers, I believe that there is information that is not readily available and that is very important for you to know when it comes to both the purchase and use of an external HDD. To assist you in this endeavor, this article will address such issues as:

1. Size
2. Power Source
3. The Main Differences
4. Backup vs. Extra Storage
5. Proprietary vs. Non-proprietary
6. Connection Type
7. Capacities and Pricing
8. Speed

1. Size

There are two sizes of external HDD 's available to you, 2.5" and 3.5":



A 2.5" External HDD



A 3.5" External HDD

The 2.5" external HDD's – often referred to as "portable HD's", are small enough to fit in a shirt pocket and are commonly used for laptops, netbooks, etc. The 3.5" external HDD's, though portable, are much larger and are primarily used in "fixed" environments, such as with desktops.

2. Power Source

The most significant differences between the 2.5" external HDD and the 3.5" external HDD's has to do with where these devices derive their power from. This point alone is very important and is a point never mentioned when considering and purchasing an external HDD. All 2.5" external HDD 's derive their power from the cable that connects the device to the computer. This cable comes in two styles as shown in the diagrams below:



2.5 Type 1



2.5 Type 2

Note: The smaller end connects to the external HDD and the larger end(s) connect to the computer. The most preferred is the 2.5 Type 2, as it provides more power to the external HDD – as it uses both USB connections to the computer. Personally, I cannot see how the 2.5 Type 1 cables can provide enough power to the external HDD – even though more and more external HDD are being sold with this type of cable.

The 3.5" external HDD's all come with an external power source – usually some form of AC adapter, even though some external HDD's come with the main power source built into the case itself. This external power source generally provides 9 volts to 12 volts, with 12 volts being the most preferred. This is an important point to remember in that the 3.5" external HDD is the very same one that is used in desktop computers and the voltage supplied there is 12 volts!



Suffice it to say that more power allows devices to function more efficiently than equivalent devices using lower power – and this principle can be applied to more things than just computers and their peripherals.

Note: If external power may not available to you – for example, when using laptops on the road, etc., then the 2.5" external HDD is preferred as the 3.5" external HDD *does require external power*.

External Hard Drive/Backup Hard Drive: The Main Differences

In consideration of the above, the primary reason for choosing one style of external HDD over another is *how you plan on using the external HDD*. Knowing and understanding the use of an external HDD will go a long way in helping you to choose the right type of external HDD to purchase for your particular usage.

One use of an external HDD would be as *external storage* with the other use of an external HDD as a *backup device*. Using an external HDD for external storage requires the device to be left on all the time.

On the other hand, using an external HDD as a backup device – power should only be used during the actual backup procedure.

Why is this important? It is important to understand that when power is being applied to an external HDD, the device is in a state of "wearing out". Heat and friction are the destroyers of most things – so the more frequently the device is used, the sooner it will wear out.

Note: Granted, this period of time may be considerable, but understanding the purposes – or roles, of an external HDD should make these distinctions very clear.

Backup vs. Extra Storage

If you have a computer that has limited HDD storage, then using an external HDD for this purpose may be advantageous. This would be especially pertinent for laptop users – as laptop hard drives are generally smaller in capacity than those normally found on desktops.

For desktop users however, it would be more appropriate to have the actual HDD physically installed in the system unit or tower. Regardless, using an external HDD as extra – or external storage will require the device to be always turned on for it to be of any real, practicable use.

When using an external HDD as a backup device, how it is used *becomes an entirely different procedure* – and the distinction is an important one! The purpose, and the only purpose I might add, for an external HDD used for backup purposes is for "data protection" – what in computer-ese is referred to as "practical redundancy".

As a result, the only time a backup external HDD is turned-on *is when the device is being used during a backup procedure*. When the backup procedure is completed, the unit is turned off and then stored in a safe and secure location – such as a fireproof safe, which is an excellent location to store such a device. The key point to note when using an external HDD for backup is to only use the external HDD during a backup procedure. This minimizes the normal "wear and tear" of the device, while providing a high level of data security.

Notes: I personally use and recommend an external HDD for backup purposes to protect that very important information that is stored on your computer's HDD.

I also use a number of external HDD's as external storage, but I do treat them differently for the reasons mentioned above. However, I still only turn-on these external HDD's when I actually need to use them. In this manner I am using the external HDD as BOTH a backup and external storage device. For everyday use, I still prefer to have the HD's actually installed in the computer.

Proprietary vs. Non-proprietary

By this, I mean generic vs. name brand devices – for example, Western Digital, Verbatim and others would be considered as proprietary devices. A number of proprietary devices are configured in such a way that forces the device to be used in a non-conventional and therefore – *a non-user friendly manner*. Of most concern, is how these devices are powered – *as some proprietary external HDD's do not provide a power switch!* This basically makes the device for use as an external storage device only and NOT as a backup device.

Sure you could unplug the device – but this DOES make such a device inconvenient to use and does not lend itself well as a backup device. All generic devices – at least all that I have seen, have a power switch which allows them to be used as *either* external storage or backup devices.

Also, many proprietary external HDD's may use special hardware and/or software in the use of these devices. In particular, are those external HDD's that come with software called "Click Free". This is problematic for three reasons: 1) it forces the user to use their particular backup methodology – which,

in my estimation, leaves a lot to be desired, 2) it cannot be removed, so it a permanent configuration – and these proprietary methods make the use of an external HDD in a "normal" sense impossible, or very difficult, and 3) many proprietary external HDD`s use older formatting schemes for the purposes of compatibility between PC`s and MAC`s. These older formatting schemes are not as efficient as the newer ones that are used with PC's – for example, FAT vs. NTFS.

Western Digital – and others, use dedicated hardware within the case which makes the device also very difficult to use in what I refer to as a "normal" manner.

Connection Type

Most external HDD's use USB as the means of connecting the external HDD to your computer. What is not commonly known is that USB is not a great connection medium for use as either an external storage or backup device.

Sadly, USB is what is available to us to use – so we pretty much have to live with it, like it or not! The reason I mention this is that if you are considering an external HDD for increasing your existing storage requirements, then adding an extra *internal* HDD to your desktop computer – If possible, would be far more advantageous than using an external HDD for the same purposes. This provides the most efficient use of power, as well as the best data transfer rates when compared with a USB external HDD.

Capacities and Pricing

A 2.5" external HDD is generally more expensive than the equivalent 3.5" external HDD. As an example, a 250GB, 2.5" EXTERNAL HDD costs the same as a 500GB, 3.5" external HDD. This is simply due to supply and demand – there are approximately 100, 3.5" HD's manufactured for every same capacity 2.5" HD.

Speed

Again, this is a point that is often never mentioned when considering the purchase of an external HDD. A 2.5" external HDD runs at speeds of either 4,300RPM, 5,400RPM or 7,200RPM – with the most common speed being 5,400RPM. On the other hand, a 3.5" HD runs at 7,200RPM. This, in my humble estimation, is an important factor – amongst other things, when considering the purchase of an external HDD. Input/Output – or simply I/O, is the ability of computer devices to "talk" with one another – and the faster the better. This is especially pertinent when working with large data files.

Summary

We have covered a considerable amount of information in this article and it would be appropriate at this time to summarize some of the important points that we have just covered.

1. Size: Choose a 3.5" external HDD

For many of the reasons listed above, a 3.5" external HDD is preferred for the following reasons: a) better power source, b) less costly, and c) faster. The only concern is portability which, surprisingly, is NOT the case for most usages.

2. Power Source

An external 12v power source is recommended – and only comes with the 3.5" devices.

3. The Main Differences

Make sure you understand the differences in how the devices are powered.

4. Backup vs. Extra Storage

Decide ahead of time as to what the actual function will be of the external HDD – as external storage or as a backup device.

5. Proprietary vs. Non-proprietary

If at all possible, try and choose a non-proprietary device. As noted, many of the proprietary devices make using external HDD's more difficult. Having an external HDD assembled is a procedure that I would personally recommend.

6. Connection Type

Determine whether you needs might warrant the installation of a 2nd HDD in your desktop system.

7. Capacities and Pricing

Understand that 2.5" drives will cost more than and equivalent 3.5" drives.

8. Speed

Consider the speed of the external HDD for your particular needs. For digital audio and video, a 2.5" in this situation is really NOT the way to go!

Closing comments

As with everything that I write, I always hope that what is written is written in language that you can understand as well as being written from a very practical and informative perspective. Your comments to this, and other, articles are very much appreciated. Happy computing!