What to consider when choosing your internal or external SSD

You can really slow down your system by using slow storage.

A fast processor can handle billions of cycles a second, but it often spends a lot of time waiting for the drive to feed it data. Hard drives are particularly sluggish because they have platters that have to spin up and a read / right arm that has to find its way physically to the data sectors you're currently seeking. To get optimal performance, you need a good solid state drive (SSD).

Similarly, if you regularly work on large files and need something quick to transfer your data, external SSD might be an ideal choice over hard drives.

Read on to help you get you up to speed…

Top 10 benefits of SSDs

SSDs are generally more durable and reliable. There are no moving parts to damage and no drive motor to break. So, in addition to being used for internal computer storage, this reliability makes SSDs great for portable, external drives, which may be subject to more rigorous use and handling. Apart from these benefits, SSDs have a range of other advantages. We've listed a quick summary for you below.

1. Faster loading, less time waiting
   With no moving parts to spin up to speed, start-up is almost instant, dramatically improving boot-up times.
2. Faster transfer rates
   File transfers are lightning quick and can be up to 1/3 faster than traditional Hard Disk Drives (HDD's).
3. Find your files faster
   File searches are up to 8x faster than traditional HDD's.
4. Applications load faster
   Spend less time waiting for your Adobe Photoshop and Powerpoint applications to open.
5. Reduced power consumption
   With no moving parts the SSD uses far less energy which in turn could make your laptop battery last up to 30 minutes longer!

Expand the lifetime of your laptop or PC

Enhance performance

Tough and Durable

6. Halve your downtime
   Normally, your computer or laptops routine maintenance will slow your system down. With an SSD, the time that virus scans and other background maintenance take, is cut by half!
7. Multi-tasking
   SSD's make multi-tasking faster. Edit your photos and answer your emails up to 3x faster than HDD's.
8. Super fast video editing
   With an SSD you can edit video clips over 30% faster than ever before!
9. Superior durability
   The SSD's lack of moving parts make it far more robust and reliable, with increased tolerance to heat, shock and vibration.
10. Silent operation
    SSD's are silent, just like a USB Flash Drive. No more distracting hums and whirrs as the drive spins up and down.

Cool and Efficient

Types of SSDs

An external SSD or internal SSD might be the ideal choice for you if you are working on large files on a daily basis or if you need to save your important data, photos, movies or games on a robust drive that you can trust. SSDs come in a few different shapes and sizes, and that can affect their performance and adoption, read on to find out more.

SATA III: SATA III is the last evolution of an older connection option that works with both HDD and SSD. It was advantageous during the transition from HDD to SSD, as hard drive-compatible motherboards could then work with the new standard. It's still the most common one used in modern SSDs and although slower than other SSD options, can still deliver read / write speeds of up to 560MB/s / 520MB/s* (which is 10 times faster than a hard drive), meaning that they can truly transform the performance and productivity levels of any hard drive-based PC or laptop computer.

PCIe: The Peripheral Component Interconnect Express or PCI Express (PCIe) slot is typically used for graphics cards and add-in cards like USB ports and sound cards. While computers may contain a mix of various types of expansion slots, PCIe is considered the standard internal interface and many computer motherboards today are manufactured only with PCIe slots. A PCIe connection consists of one or more data-transmission lanes connected serially. Each lane consists of two pairs of wires, one for receiving and one for transmitting. You can have one, four, eight or sixteen lanes in a single PCIe slot while more lanes from SATA require more SATA devices. PCIe technology enables interface speeds of up to 1GB/s per client lane (PCIe 3.0), versus today's SATA technology speeds of up to 0.6GB/s (SATA 3.0).

NVMe: Non-Volatile Memory Express (NVMe) is the underlying communications interface that allows almost all PCIe-based SSDs to transfer data to and from the host system. The NVMe interface was designed specifically for SSD technology - it communicates between the storage interface and the System CPU using high-speed PCIe sockets, independent of storage form factor. Input/Output tasks performed using NVMe drivers begin faster, transfer more data, and finish faster than older storage models using older drivers, resulting in the maximum performance by reducing bottlenecks and latency times, allowing the fastest speeds. Verbatim's latest internal SSD (Vi3000) which incorporates NVMe PCIe can deliver sequential read speeds up to 3,100 and write speeds of 2,900MB/s, which is 50 times faster than a regular hard drive.

M.2: The smallest of the SSD designs, M.2 drives can use both SATA or NVMe controllers (so speeds do vary), but in terms of physical size, M.2 drives are much smaller than the 2.5" type. They have a short pin connector and typically lie flat against a motherboard, making them extremely inconspicuous. M.2 SSDs support a variety of interface standards such as PCIe 3.0, SATA 3.0 and USB 3.0 interfaces, compared to mSATA, which only supports SATA interface standards. An M.2 SSD based on the non-volatile memory express (NVMe) specifications can read and write at much faster rates than SATA SSDs - SATA SSDs have a maximum speed of 600 MB per second, while M.2 PCIe cards can hit 4 GB per second.

FORM FACTORS

(The 2.5-inch designation actually refers to the size of a typical laptop drive platter, the disc inside the housing that data is actually recorded on.)

M.2 uses both PCIe and SATA interfaces. The numbers determine the physical size, so in this case 22mm wide and 80mm long.

Whether you choose an internal SSD or a portable one, both are designed using the same technology as a 2.5-inch, mSATA, or M.2 with an added enclosure and cable interface.

External SSDs

Verbatim has a range of super high speed portable storage for moving and backing up your precious data. From being sleek, slim, stylish and secure, we have the right external SSD for your all your data storage needs.

Vx500 External SSD

USB-C™

- USB 3.2 Gen 2 performance
- Up to 500 MB/s read and up to 440 MB/s* write speed
- Sleek space grey aluminium design
- Small in size - 92mm x 29mm x 9mm / 29 grams
- Supplied with USB-C & USB-A cables

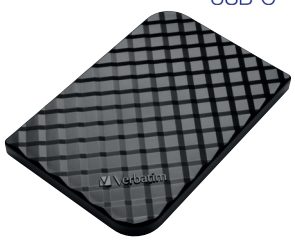
* For optimal performance use a USB-C™ cable and USB 3.1 GEN 2 or Thunderbolt™ 3 host port. Transfer speeds based on internal data using UASP and BOT mode. Write speed dependent upon product capacity.

PART NO	DESCRIPTION	READ (UP TO)	WRITE (UP TO)*
47441	Vx500 External SSD 120 GB	500 MB/sec	290 MB/sec
47442	Vx500 External SSD 240 GB	500 MB/sec	430 MB/sec
47443	Vx500 External SSD 480 GB	500 MB/sec	440 MB/sec

Store 'n' Go SSD

USB-C™

- USB 3.2 Gen 1 External Solid State Drive with USB-C™ connection
- Stylish black design with a 3D surface
- High speed data transfer
- USB-C™ to USB-A cable and USB-C™ adapter included
- Nero Backup Software



PART NO	DESCRIPTION
53249	Store 'n' Go Portable SSD USB 3.2 Gen 1 256 GB
53250	Store 'n' Go Portable SSD USB 3.2 Gen 1 512 GB
53230	Store 'n' Go Portable SSD USB 3.2 Gen 1 1 TB

Store 'n' Go Mini SSD

USB-C™

- Ultra small and lightweight Solid State Drive
- Highly portable design, weighing just 35 grams
- Stylish black design with a 3D surface
- High speed data transfer - a fast and safe solution to expand storage and backup files
- USB 3.2 GEN 1 connection with USB-C™ adapter
- Micro-B to USB-A cable and USB-A to USB-C™ adapter included
- Nero Backup Software

PART NO	DESCRIPTION
53236	Store 'n' Go Mini SSD USB 3.2 Gen 1 512 GB
53237	Store 'n' Go Mini SSD USB 3.2 Gen 1 1 TB

SECURITY

Store 'n' Go Secure Portable SSD with Keypad Access

- Premium AES 256-bit Hardware Encryption
- Built-in keypad with passcode input (5 to 12 digits)
- SSDs use flash memory storage for faster speeds, higher performance and greater reliability
- USB 3.2 GEN 1 with USB-C™ connection
- LED power / encryption status indicators
- More secure than software encryption
- Nero Backup Software

AES-256 ENCRYPTION

USB-C™

PART NO	DESCRIPTION
53402	Store 'n' Go Keypad Secure Portable SSD 256 GB

Internal SSDs

By replacing an old HDD or SSD with a new high performance SSD from Verbatim, you can dramatically increase your system performance making your PC start up faster, programs feel much more responsive and allow more efficient multi-tasking.

Vi550 S3 SSD

- Internal 2.5" SATA III 7mm Solid State Drive
- High reliability with superior flash controller
- Client SSD for desktop and notebook upgrades
- Read speeds of up to 560 MB/s
- Boost your PC's performance and launch applications faster
- Low power consumption for extended battery life
- Professional installation recommended

PART NO	DESCRIPTION	READ (UP TO)*	WRITE (UP TO)*
49350	Vi550 S3 SSD 128 GB	560 MB/sec	430 MB/sec
49351	Vi550 S3 SSD 256 GB	560 MB/sec	460 MB/sec
49352	Vi550 S3 SSD 512 GB	560 MB/sec	535 MB/sec
49353	Vi550 S3 SSD 1 TB	550 MB/sec	535 MB/sec

Vi560 S3 M.2 2280 SSD

- Internal SATA III M.2 2280 Internal Solid State Drive
- High reliability with superior flash controller
- Client SSD for laptop upgrades
- Read speeds of up to 560 MB/s
- Boost your laptops performance and launch applications faster
- Low power consumption for extended battery life
- Professional installation recommended

PART NO	DESCRIPTION	READ (UP TO)*	WRITE (UP TO)*
49362	Vi560 S3 M.2 SSD 256 GB	560 MB/sec	460 MB/sec
49363	Vi560 S3 M.2 SSD 512 GB	560 MB/sec	520 MB/sec
49364	Vi560 S3 M.2 SSD 1 TB	560 MB/sec	520 MB/sec