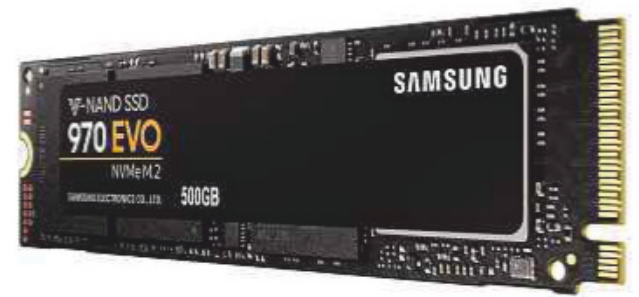


Upgrade to an SSD

A solid-state drive is one of the most effective upgrades to your Windows 10 PC. So which one should you buy?



An **SSD** does the same job as a hard drive, but around 5 to 30x faster, speeding up the process of loading and switching between programs, working with big files and carrying out tasks like video editing.

The **SATA** interface for the traditional 2.5in 'black slab' format limits **read speeds** to just over 500MB per second (MB/s), which many SSDs will reach, though **write speeds** are usually slower. These drives can be installed in desktop

PCs and older laptops. Newer **M.2** sockets take SSDs that look like small circuit boards. Some are still SATA speed, but **NVMe** drives can reach over 3GB/s, although half that is more likely when writing. Sadly, many laptops now have soldered storage that can't be upgraded, but some use M.2.

Here we've picked six of the best current SSDs (three SATA, three M.2). We mostly tested 500GB units and all prices quoted are for this capacity, though bigger and

smaller sizes exist in all ranges. Value for money will vary depending on capacity and current offers.

We also recommend the Samsung 970 Evo (pictured above, £118 for 500GB from www.snipca.com/30186 – see our review, Issue 540), a great M.2 drive that's only slightly off the speed of the Corsair Force MP510 or WD Black. Note, though, that its lower-capacity versions have slower writes, as with other SSDs.

SATA £68 from Amazon www.snipca.com/30188

Crucial MX500

From US memory manufacturer Micron, the Crucial brand focuses on solid performance at competitive prices. Like most others, this SATA drive uses **3D NAND**, which layers flash memory cells to pack them tighter and reduce the

cost per gigabyte, but with a single-layer cell (**SLC**) **cache** to boost speed. This pushed our peak read and write speeds to a competitive 564 and 517MB/s, falling to a middling 84 and 31 in the toughest tasks. SATA drives don't get much faster,

and it's cheaper than the technically similar Adata Ultimate SU800 (£75 for 500GB from Amazon, www.snipca.com/30187). There's also an M.2 version, which is no faster, but reasonable value if speed isn't a priority.



VERDICT



SATA £70 from Amazon www.snipca.com/30189

Seagate BarraCuda

With the familiar BarraCuda hard-drive brand, this SATA SSD uses veteran storage maker Seagate's own controller hardware with 3D NAND to achieve what are claimed to be exceptionally high speeds for both reading

and writing. Keep in mind, though, that SATA SSDs (bar a small number of budget options like the WD Green) don't vary much in performance. Peak read and write speeds topped our test rankings at 565 and 546MB/s, but the BarraCuda

drifted off the pace in tougher tasks, leaving it overall fastest for reads but average for writes. Still, it's a very fast drive for a lot less money than the likes of Samsung's 860 Pro, and a worthy rival to the WD Blue.



VERDICT



SATA £71 from Amazon www.snipca.com/30190

WD Blue

As with Samsung's Evo and Pro lines, you might wonder why people pay extra for WD Black drives when Blue is fine. This SATA SSD does have a rather low TBW (total bytes written) rating of 200TB, but

unless you're running a busy server or constantly writing huge files like pro video footage, these figures still mean you'll get plenty of reliable service out of the drive – as indicated by WD's

five-year warranty. The 3D NAND, **Micron cache** and **Marvell controller** produced excellent speed results across all our tests, making this a reasonably priced and impressive SATA drive.



VERDICT



M.2 £100 from CCL www.snipca.com/30191

Adata XPG-SX8200

This M.2 NVME SSD is an obvious competitor to Samsung's 970 Evo, but Adata didn't do itself any favours by sending us the 240GB version to test. On paper, read speeds of up to 3200 and writes of up to 1700MB/s rival the 970 Evo's 3400 and 1500, but our

240GB drive peaked at 3138 and 1188. This was in line with Adata's own tests, which show 480GB and larger units get closer to those theoretical results, making them a better choice at prices that undercut Samsung's.

Even the 240GB version did



very well in the random small-file tests that challenge most drives, benefiting general Windows tasks rather than big-file transfers. A long quoted lifespan adds to its appeal.

VERDICT

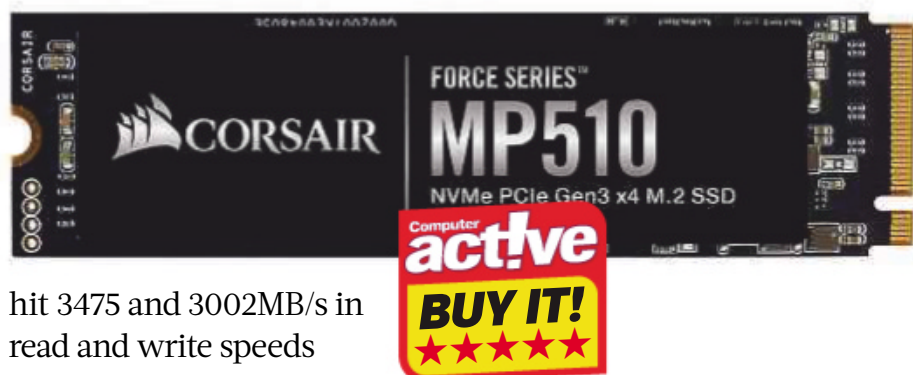
★★★★★

M.2 £107 from Scan www.snipca.com/30192

Corsair Force MP510

Based on WD/Toshiba 3D NAND with a controller from Taiwanese specialist Phison, this M.2 NVME SSD promises read speeds of up to 3480MB/s and writes of up to an exceptional 3000MB/s in the 960GB version, beating much pricier equivalent WD Black

and Samsung 970 Pro units. As is common, though, write speeds are slower on the smaller drives – quoted at 2000MB/s on the 480GB (at the price above) and just 1050MB/s on the 240GB. We tested the 960GB (£196 from www.snipca.com/30193), and



hit 3475 and 3002MB/s in read and write speeds respectively. With small files it slipped down the rankings, but overall it really is a top-speed bargain – if you need a one-terabyte drive.

VERDICT

★★★★★

M.2 £92 from CCL www.snipca.com/30195

WD Black

With the NVMe M.2 Black, WD seems to have produced a premium drive and forgotten to charge extra for it. For the 1TB version we tested, quoted maximum 3400 and 2800MB/s read and write speeds put it in Samsung 970 Pro territory at a 970 Evo price (£226 from

www.snipca.com/30196). Our own results, including peaks of 3418 and 2786MB/s, put it between the two, but in real-world tasks it wasn't consistently fast, leaving the cheaper Corsair Force MP510 an even better buy. We weren't able to test the 500GB version



(priced above), but it's quoted at up to 3400MB/s read and 2500 write, and with current offers dipping below £100 it looks a good buy.

VERDICT

★★★★★

96%
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