

Western Digital HDD capacity hits 28TB as Seagate looks to 30TB and beyond

Enlarge / Western Digital is gearing up to sample its first 28TB HDDs to customers, around a year after announcing its first 26TB drives.

Western Digital

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After a couple of decades of talk, Seagate announced earlier this year that it was shipping samples of huge 32TB hard drives using heat-assisted magnetic recording (HAMR). The new kind of drive technology uses lasers to heat disk platters during writing, making it possible to store more data on a disk without increasing its physical size.

But there's still a bit more capacity to be wrung out of older and more-proven recording technologies like perpendicular (or conventional) magnetic recording (PMR/CMR, often used interchangeably) and shingled magnetic recording (SMR); Western Digital announced this week that it's preparing to sample huge 28TB hard drives based on those technologies, a little over a year after announcing its first 26TB model.

According to Tom's Hardware, WD uses energy-assisted perpendicular magnetic recording (ePMR) to fit up to 24TB of data on a single drive. SMR allows magnetic tracks to overlap slightly (like the shingles on a roof), allowing slightly more data to fit onto the same physical platters at the expense of

write performance—this boosts the capacity of these drives to 28TB.

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During its most recent earnings call, Western Digital CEO David Goeckeler reiterated that 28TB wasn't the end for its ePMR and SMR-based hard drives. Past roadmaps have indicated that 30TB and 32TB SMR drives should also be possible, though these drives aren't ready for sampling to Western Digital's customers yet.

Western Digital is working on HAMR-capable drives, too, but the company doesn't think they'll be available in volume until late 2025 at the earliest. Seagate expects to ship its first 32TB HAMR drives before then, and the company has already talked about HAMR drives as large as 50TB being tested in its labs.

Western Digital's earnings are buffeted by some of the same forces affecting other PC hardware and software companies like Intel and Microsoft. The company's earnings for Q4 2023 were down 5 percent year over year, mostly driven by an 18 percent drop in revenue for its cloud business. Its client and consumer businesses—drives sold to PC makers and directly to consumers—grew slightly. This time last year, all three divisions were down by double digits compared to 2022, so the post-pandemic PC slump could be bottoming out.

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