

Three ways to check your hard drive health using SMART



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Did you know that most modern hard drives store their own reliability data internally and have built in testing tools to check drive health?

The data provided by SMART is extensive, for example it provides a total of the Raw Read Error Rate, Spinup Time, Start/Stop Count, Reallocated Sector Count, Seek Error Rate, Power-On Hours, Spinup Retry Count, Power Cycle Count, Temperature Current/Max, Hardware ECC Recovered, Current Pending Sector Count, Uncorrectable Sector Count, and many more. Not all drives will provide all of the above information – some have less and some have more, it depends on how the hardware manufacturer implemented SMART with that particular version of the disk. Unfortunately, some manufacturers produce drives that do not support SMART. If you find that a drive reports that SMART is not supported, then you will be unable to examine the data that the SMART system provides and also unable to perform any of the built-in SMART drive tests. The SMART system also provides an overall-health self-assessment in the form of a PASSED or FAILED result. Before you look at the data for your drive using SMART, know that SMART is not perfect, and you may see some values that alarm you, but remember that SMART is just a prediction system that tries to predict if the disk will fail soon or not. However, if your disk fails the overall-health self-assessment, then you might want to back up your data as soon as possible.

SMART also supports three types of tests to help determine the health of a hard drive:

The Short Self-test: Short self-test consists of a collection of test routines that have the highest chance of detecting drive problems. Its result is reported in the Self-test Log. Note that this test is in no way comprehensive. Its main purpose is to detect totally damaged drives without running the full surface scan.

The Extended Self-test: Extended self-test examines complete disk surface and performs various test routines built into the drive. Its result is reported in the Self-test Log.

The Conveyance Self-test: Conveyance self-test is intended to identify damage incurred during transporting of the drive.