

How are bad sectors detected and handled for SSDs or HDDs?

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There is no separate "bad sector detection" command but whenever there is an error detected with a drive, the software will inform the user automatically and reflect the result in the Blancco erasure report.

If the totality of the addressable area of a drive cannot be erased or verified, this can cause a potentially remarkable data security risk. Examples:

- A drive may contain damaged areas (also known as "bad sectors") that are not remapped and cannot be accessed anymore with read or write commands.
- A drive (especially an HDD) which temperature has risen above a certain value can start producing read and write errors randomly.
- A drive behind a RAID controller that does not accept read or write commands.

Those problematic sectors/areas/drives have one thing in common: although they can still contain data, attempting to reach them generates write or read errors.

Blancco Drive Eraser keeps track of the erasure process and informs if the data overwrite or verification cannot be performed due to some error on the drive level. In case there is a problematic area on the drive, the software will first try to write (read) data to (from) the defective area. If the area generates write (read) errors, Blancco will try to write (read) a smaller block (half of the original block size) to (from) the area in order to overwrite (verify) the maximum amount of data. The same procedure will continue until the software tries to write (read) the smallest possible block to the drive and if unable to do so after three tries, the sector will be considered unreachable and the software will count one error. In all cases, all the areas that can be reached will be erased and only the areas that cannot be written/read will be reported. The sum of the errors will be visible in the user interface (under the drive) and in the erasure report.

A threshold on the write and read error count can be configured in the Drive Eraser Configuration Tool. The default threshold is 5 errors. If the amount of write errors equals or exceeds the defined threshold, the erasure is immediately stopped and marked as failed. This helps identifying problematic drives more quickly and can save a lot of time, additionally the report will show an error message informing about this.