Understanding the SMART Attributes.

The SMART Attributes list in the DiskCheckup main window contains all SMART attributes supported by the currently selected drive. (See What is SMART? for more information)

ID
The attribute ID.

Description
A text description of the attribute. See below for a more detailed description of each attribute.

Raw Value
The attributes current raw value. This may be a count, a number of errors or hours, or even a temperature, depending on the attribute.

Status
Provided a status for the attribute. OK means the attribute value is well in the safe zone. WARNING means that the attribute value is approaching the attribute threshold and FAIL means that a Threshold Exceeding Condition has been detected.

Value
The current normalized attribute value.

Worst
The worst (lowest) value recorded so far. This is an indicator of how close to failure the drive has ever been.

Threshold
The attribute threshold. This value will not change and represents the lowest possible safe attribute value.

The Attributes

Raw Read Error Rate
Represents the rate of uncorrected read errors. Lower values indicate that there is a problem with either disk surface or read/write heads.

Throughput Performance
Represents the throughput performance of the drive. I.e. The speed at which the drive is reading and writing data.

Spin Up Time
Represents the average amount of time required to spin up the drive spindle to operational speed from a stopped state.

Start/Stop Count
Represents the number of start/stop cycles for the drive. The raw value indicates the count of start/stop cycles for the drive. The drive being powered on/off or suspended/woken up are considered as start/stop cycles.

Reallocated Sector Count
Represents the amount of spare sector pool available. Spare sectors are used to replace sectors that became bad for some reason (for instance, if a read error occurs). Therefore the more sectors reallocated, the worse the condition of the drive. A high value represents few reallocated sectors, a low value represents a disk in poor physical condition.

Seek Error Rate
Represents the number of seek errors. Each time the drive attempts a seek operation, but fails to position its head correctly, the seek error rate increases.

Seek Time Performance

Represents how efficiently the drive is performing seek operations. A low value indicates problems with the drive subsystem, for instance the servo responsible for positioning the head.

Power On Hours Count
This is an informative attribute, the raw value of which displays the number of hours the drive has been powered on for.

Spin Retry Count
Represents the number of times a drive fails to spin its spindle up to operation speed on the first attempt. The lower the value, the more retries have occurred.

Calibration Retry Count
Calibration is the act of repositioning the drive read/write head to cylinder 0. This value represents the number of times a calibration has failed on the first attempt.

Power Cycle Count
Informative attribute, the raw value of which represents the number of drive power on/drive power off cycles for the disk.

Temperature
Informative attribute, the raw value of which represents the current temperature in Celsius of the drive.

Reallocation Event Count
Represents the number of reallocation events, which have taken place. Sometimes multiple sectors are reallocated together – this corresponds to one reallocation event. (See also: *Reallocated Sector Count* and *Current Pending Sector Count*).

Current Pending Sector Count
Represents the number of sectors currently pending reallocation.

Offline Scan Incorrect. Sector Count
Represents the amount of errors detected during the last offline scan.

Ultra ATA CRC Error Count
Represents the number of CRC error found in the Ultra DMA high-speed transfer mode. (CRC stands for Cyclic Redundancy Check and is data verification algorithm which uses polynomial checksums).

Write Error Count
Represents the rate of uncorrected write errors. Lower values indicate that there is a problem with either disk surface or read/write heads.

GSense Error rate

Unknown function on IBM drives. Please contact us if you know what this is.

Power off retract count

Unknown function on IBM drives. Is possibly a count of the number of times the drive head was moved off the disk in a power down situation? Please contact us if you know exactly what this is.

Load/Unload cycle count

Unknown function on IBM drives. Please contact us if you know what this is.