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(71) Applicant: CIRRUS LOGIC, INC. [US/US]; 3100 West Warren Avenue, Fremont, CA 94538-6423 (US).

(72) Inventors: NEMAZIE, Siamack; 1253 Quail Creek Circle, San Jose, CA 95120 (US). SCHADEGG, John; 8480 Haystack Court, Niwok, CO 80503 (US).

(74) Agents: CHURCH, Shirley, L. et al.; Cirrus Logic, Inc., 3100 West Warren Avenue, Building 5, 906, Fremont, CA 94538 (US).

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(54) Title: DEFECT MANAGEMENT FOR AUTOMATIC TRACK PROCESSING WITHOUT ID FIELD

(57) Abstract

Defect management for automatic track processing without an ID field, processes defect information for a track on a magnetic media within a disk drive system. A system which uses any method of defect management including linear replacement, sector slipping, cylinder slipping or segment slipping, can be supported. A physical sector number for each sector is translated to a logical sector number relating to the order of data on a track. This translation of the physical sector number to a logical sector number for automatic track processing can be accomplished using any one of three methods: 1) a track defect table can be built in the buffer RAM; 2) the defect information can be written in the header of every sector; or 3) a system FIFO, located in the onboard logic, can be used to manage the defect list. The first and third methods support an ID_less format wherein the data field does not contain a header subfield and information for sector identification is maintained by the disk drive system. In the second method, the header subfield comprises four defect records. In the third method, if there are more defect records for the track than will fit in the FIFO, then after initialization and loading the first and second banks of the FIFO by the drive microprocessor, the first and second banks are each loaded by the drive microprocessor while the other is being processed, in a ping-pong manner, until the track processing is complete. A defect record includes a physical sector number of the defective sector, an offset number and a flag indicating whether or not the defective sector has been slipped. The defect record may be either a fixed two byte entry or may be of a user defined number of bytes. Defect flags are automatically generated by the system for each defective sector.

