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(71) Applicant *(for all designated States except US)*: SEAGATE TECHNOLOGY, INC. [US/US]; 930 Disc Drive, Scotts Valley, CA 95067-0360 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: TSANG, Kinhang, P. [US/US]; 10310 28th Avenue North, Plymouth, MN 55441 (US). KOST, Robert, E. [US/US]; 4858 Coffax Avenue South, Minneapolis, MN 55409 (US). BURNS, Kenneth, R. [CA/CA]; 5631 Hyland Greens Drive, Bloomington, MN 55437 (US).

(74) Agent: CHASIN, Lawrence, C.; Kinney & Lange, P.A., Suite 1500, 625 Fourth Avenue South, Minneapolis, MN 55415-1659 (US).

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(57) Abstract

The present invention provides sequence detection which takes into account amplitude and/or time distortions caused by neighboring magnetization regions on the magnetic medium, wherein the distortions in one magnetization region are caused by the closeness of neighboring magnetization transitions on one or both sides thereof. The sequence detection according to the present invention provides an extended state diagram to include the effects of leading and/or trailing magnetization transitions. More particularly, it has been found that accounting for the effects of trailing transitions requires an increase in the number of states S0-S7 in the state diagram used to form the Viterbi detector (60). Leading transitions are neutralized by increasing the number of branches (AA-HB, AAO-HB1) between states in the Viterbi detector (60). Increasing the number of branches (AA-HB, AAO-HB1) instead of states keeps the complexity low and thus saves hardware and associated costs.