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(71) Applicant: INTERNATIONAL BUSINESS MACHINES CORPORATION [US/US]; Old Orchard Road, Armonk, NY 10504 (US).

(72) Inventors: COKER, Jonathan, Darrel; 1605 5th Street Northeast, Rochester, MN 55901 (US). ELEFTHERIOU, Evangelos, Stavros; Bellariastrasse 53, CH-8038 Zürich (CH). GALBRAITH, Richard, Leo; 2232 N.W. 52nd Street, Rochester, MN 55901 (US). HIRT, Walter; Hinderweidstrasse 29, CH-8907 Wettswil (CH).

(74) Agent: BARTH, Carl, Otto; International Business Machines Corporation, Säumerstrasse 4, CH-8803 Rüschlikon (CH).

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(54) Title: APPARATUS AND METHOD FOR NOISE-PREDICTIVE MAXIMUM-LIKELIHOOD (NPML) DETECTION

(57) Abstract

The present application makes use of a novel noise-predictive maximum-likelihood (NPML) data detection scheme (10) operating on signal samples received via an equalizing filter (22) from a channel, and in particular a storage channel of a direct access storage device. This scheme arises by applying a noise prediction/whitening process to the output signal of said equalizers and by providing means in the branch metric computation of a maximum-likelihood sequence detector (MLSD). It furthermore provides for cancellation of intersymbol-interference (ISI) components of said signal samples, by means of an appropriate table look-up. The contents of the table look-up are addressed by using decisions from the path histories of the maximum-likelihood sequence detector.

