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(71) Applicant (for all designated States except US): **ALTERA CORPORATION** [US/US]; 101 Innovation Drive, San Jose, CA 95134-1941 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BEREZA, William, W.** [CA/CA]; 6 Lindhurst Crescent, Nepean, K2G 0T7 (CA). **VARELJIAN, Albert** [CA/US]; 1217 Darling Way, Folsom, CA 95630 (US). **PATEL, Rakesh, H.** [US/US]; 20087 Las Ondas Court, Cupertino, CA 95014 (US).(74) Agents: **INGERMAN, Jeffrey, H.** et al.; Ropes & Gray LLP, 1211 Avenue Of The Americas, New York, NY 10036-8704 (US).

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(54) Title: DIGITAL EQUALIZER FOR HIGH-SPEED SERIAL COMMUNICATIONS

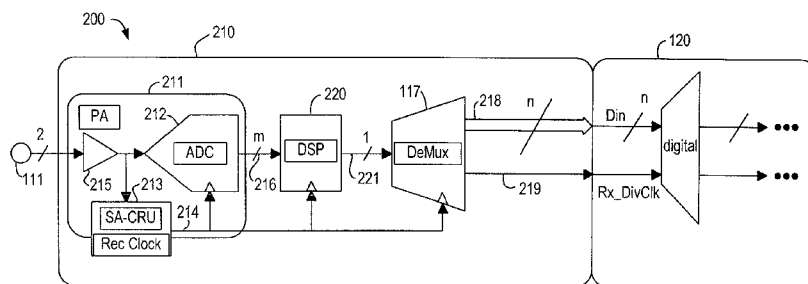


FIG. 2

(57) Abstract: Incoming data at a high-speed serial receiver is digitized and then digital signal processing (DSP) techniques may be used to perform digital equalization. Such digital techniques may be used to correct various data anomalies. In particular, in a multi-channel system, where crosstalk may be of concern, knowledge of the characteristics of the other channels, or even the data on those channels, may allow crosstalk to be subtracted out. Knowledge of data channel geometries, particularly in the context of backplane transmissions, may allow echoes and reflections caused by connectors to be subtracted out. As data rates increase, fractional rate processing can be employed. For example, the analog-to-digital conversion can be performed at half-rate and then two DSPs can be used in parallel to maintain throughput at the higher initial clock rate. At even higher rates, quadrature techniques can allow analog-to-digital conversion at quarter-rate, with four DSPs used in parallel.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/002652**A. CLASSIFICATION OF SUBJECT MATTER****H04B 7/005(2006.01)i, H04B 1/12(2006.01)i, H04B 1/16(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: H04B, H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models applications for Utility Models since 1975, IPC as above

Japanese Utility Models and application for Utility Models since 1975, IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eCOMPASS, IEEEExpl, Google; serial interface; reduced-rate data stream; clock control; A/D converter; equalization;

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008/0101510 A1 (OSCAR E. AGAZZI) 1 May 2008 See all documents.	1, 6-8, 15-18, 25, 29
Y		2-5, 9-14, 19-24, 26-28, 30-31
Y	EP 1,006,697 A2 (LUCENT TECHNOLOGIES INC.) 07 June 2000 See abstract, [0008]-[0012], Fig.1-3 and Claims 1-5.	2-5, 9-14, 19-24, 26-28, 30-31
A	US 2001/0035994 A1 (OSCAR E. AGAZZI, et al) 1 November 2001 See all documents.	1-31
A	US 6,075,814 A (LARRY C. YAMANO, et al) 13 June 2000 See all documents.	1-31

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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SEONG, KYOUNG A

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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