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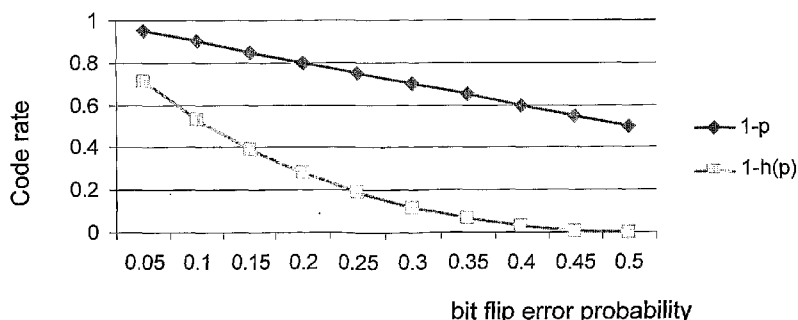


Figure 2

(57) Abstract: A flash memory system comprising temporary memory, writing apparatus for writing first logical data from the temporary memory into flash memory cells having at least two levels, thereby to generate a physical representation of the first logical data including known errors, reading apparatus for reading the physical representation from the cells, thereby to generate, and store in the temporary memory, second logical data which if read immediately is identical to the first logical data other than the known errors; and controlling apparatus controlling the writing apparatus and the reading apparatus and including known error ID apparatus operative to identify the known errors by comparing the first logical data to second logical data read immediately after the physical representation is generated, to store information characterizing the known errors and to use the information, when the second logical data is next read, to correct the known errors.

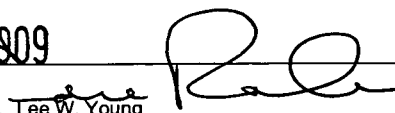


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INTERNATIONAL SEARCH REPORT

International application No.

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<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - G11C 7/10 (2009.01) USPC - 365/189.05 According to International Patent Classification (IPC) or to both national classification and IPC</p>														
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) USPC - 365/189.05</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC - 365/51, 63, 185.17, 230.08, 238.5, 244 (view search terms below)</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Electronic Databases Searched: PubWEST (PGPB, USPT, EPAB, JPAB), Google Search Terms Used: temporary, volatile, memory cell, RAM, cache, SRAM, flash, EEPROM, multilevel, MLC, write, encode, save, store, input, program, error, mistake, overprogram, compare, examine, analyze, check, verify, second, 2nd, duplicate, redundant</p>														
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X — Y</td> <td>US 2004/0153817 A1 (NORMAN et al.) 05 August 2004 (05.08.2004) entire document, especially Abstract, para [0006], [0008], [0014]-[0016], [0022]-[0026], [0029] and [0049]-[0055]; Figs.2, 5A and 5B</td> <td>1-6, 8, 11-19 ----- 7, 9-10</td> </tr> <tr> <td>Y</td> <td>US 2007/0223277 A1 (TANAKA et al.) 27 September 2007 (27.09.2007) entire document, especially, para [0006]-[0008], [0016] and [0048]-[0050]</td> <td>7, 9-10</td> </tr> <tr> <td>A</td> <td>US 2007/0109858 A1 (CONLEY et al.) 17 May 2007 (17.05.2007) entire document</td> <td>1-19</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X — Y	US 2004/0153817 A1 (NORMAN et al.) 05 August 2004 (05.08.2004) entire document, especially Abstract, para [0006], [0008], [0014]-[0016], [0022]-[0026], [0029] and [0049]-[0055]; Figs.2, 5A and 5B	1-6, 8, 11-19 ----- 7, 9-10	Y	US 2007/0223277 A1 (TANAKA et al.) 27 September 2007 (27.09.2007) entire document, especially, para [0006]-[0008], [0016] and [0048]-[0050]	7, 9-10	A	US 2007/0109858 A1 (CONLEY et al.) 17 May 2007 (17.05.2007) entire document	1-19
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<p>Date of the actual completion of the international search 15 January 2009 (15.01.2009)</p>		<p>Date of mailing of the international search report 28 JAN 2009</p>												
<p>Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201</p>		<p>Authorized officer:  Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>												